



Environment and
Climate Change Canada

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GLOBAL TRENDS IN PROTECTED AREAS

CANADIAN ENVIRONMENTAL
SUSTAINABILITY INDICATORS



Canada 

Suggested citation for this document: Environment and Climate Change Canada (2019) Canadian Environmental Sustainability Indicators: Global trends in protected areas. Consulted on *Month day, year*. Available at: www.canada.ca/en/environment-climate-change/services/environmental-indicators/global-trends-protected-areas.html.

Cat. No.: En4-144/10-2019E-PDF
ISBN: 978-0-660-31950-6

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CANADIAN ENVIRONMENTAL SUSTAINABILITY INDICATORS GLOBAL TRENDS IN PROTECTED AREAS

August 2019

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Global trends in protected areas

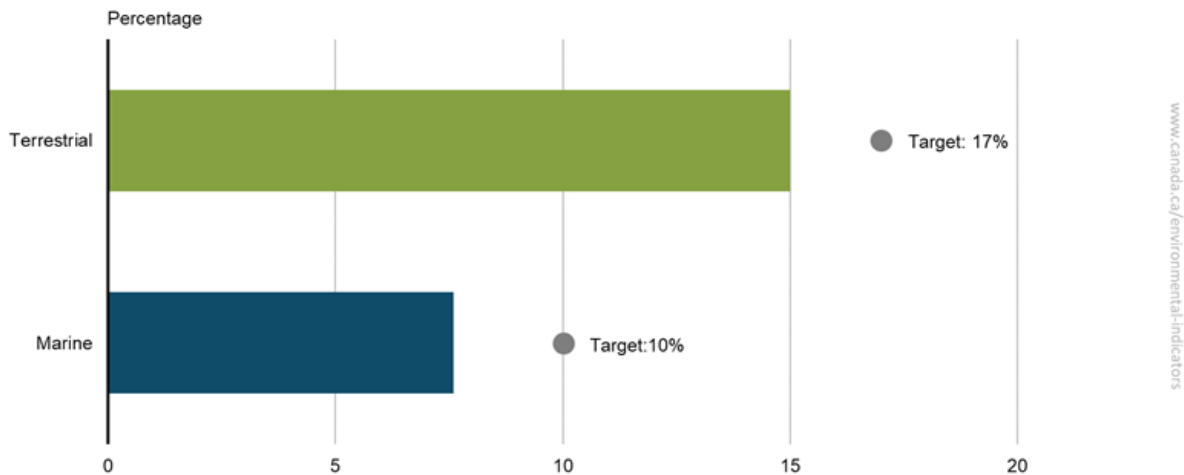
To conserve biodiversity and ecosystem services, nations are increasing the area they protect. This indicator provides a global overview of terrestrial and marine protected areas.

Global area protected

Key results

- The June 2019 update of the Protected Planet Live Report showed that globally
 - 15% of terrestrial area, including freshwater, was protected, up from 8.2% in 1990
 - 7.6% of marine area, including international waters, was protected, up from 0.4% in 1990
- Governments across the globe have committed to conserving 17% of terrestrial and 10% of marine areas by 2020

Figure 1. Proportion of global area protected as reported in June 2019 and global 2020 targets



[Data for Figure 1](#)

Note: Antarctica is not included. The analysis uses only data for areas that meet the international definition of a protected area.

Source: United Nations Environment Programme World Conservation Monitoring Centre, International Union for Conservation of Nature and National Geographic Society (2019) [Protected Planet Live Report 2019](#). Chapter 2, last chapter update June 2019.

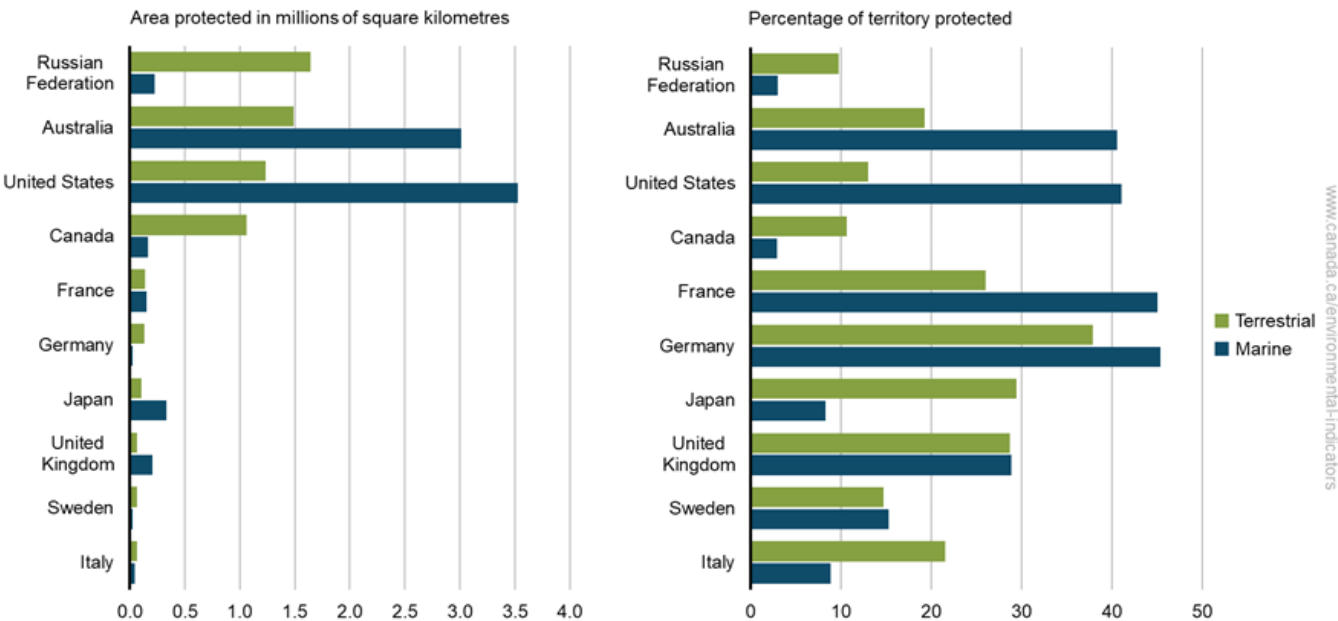
The [Protected Planet Live Report 2019](#) and the [Global Biodiversity Outlook 4](#) have noted that the world is on track to achieve the protection of 17% of terrestrial area by 2020. The Protected Planet report also noted that since 2016, there has been astounding growth in marine area protected and it estimates the target of protecting 10% of marine area by 2020 will likely be met with continued efforts.

Comparison of protected areas, selected countries

Key results

- As of the July 2019 update of the database, among a group of 10 countries,¹ Canada
 - ranked fourth in total terrestrial area protected and sixth in total marine area protected
 - ranked second last in the proportion of terrestrial area protected and last in the proportion of marine area protected

Figure 2. Area protected and proportion of territory protected, selected countries, 2019



[Data for Figure 2](#)

Note: Marine areas include territorial seas and exclusive economic zones. The analysis uses only data for areas that meet the international definition of a protected area. Data from a single source are used to ensure consistency among countries. For authoritative Canadian national reporting, see [Canada's conserved areas](#) indicator.

Source: United Nations Environment Programme World Conservation Monitoring Centre and International Union for Conservation of Nature (2019) [World Database on Protected Areas, Global Stats](#). July 2019 release.

While Canada² protects a large area, its proportion of terrestrial and marine area protected is lower than the average among a peer group of countries. Likewise, the Russian Federation, with the largest terrestrial area protected (16.9 million square kilometres) is also the country with the highest total terrestrial area protected. However, it ranks last in terms of the proportion of its terrestrial area protected.

The Russian Federation, Australia, the United States and Canada are the top 4 countries in terms of terrestrial area protected. On the other hand, amongst the selected countries, Germany, Japan, the United Kingdom, France, Italy and Australia protect over 17% of their total terrestrial area.

¹ Selected countries include the Group of 7 (Canada, France, Germany, Italy, Japan, the United Kingdom and the United States), Australia (the population, population density and territorial extent are similar to Canada), the Russian Federation (a large northern country like Canada) and Sweden (which has a similar climate).

² Due to differing date stamps and methods, estimates for Canada in this indicator differ from [Canada's conserved areas](#), Canada's authoritative national indicator. National estimates are updated regularly. As of June 2019, 11.8% of terrestrial area is conserved and as of August 2019, 13.8% of marine area is conserved.

The United States and Australia have the largest marine area protected. Among the selected countries, Germany, France, the United States, Australia, the United Kingdom and Sweden protect over 10% of their total marine area.

About the indicator

What the indicator measures

This indicator reports on global terrestrial and marine area afforded protection for the conservation of nature. The indicator also shows a comparison of area protected among 10 selected countries. Global information on protected areas is collected, analyzed and made available by the World Database on Protected Areas.

Protected area coverage calculations from the database use only data on protected areas recognized under the internationally agreed definition. A protected area is defined as "a clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values."^{3,4}

Why this indicator is important

Protected areas are key management tools used for the conservation of biodiversity. The area of land and water that is protected is a measure of human response to the loss of biodiversity and natural habitat. The [Protected Planet Live Report 2019](#) describes how protected areas are achieving an important part of the Convention on Biological Diversity Aichi Target 11. Target 11 calls for parties to achieve "By 2020, at least 17 per cent of terrestrial and inland water areas and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscape and seascape."

Protected areas also contribute to the [Sustainable Development Goals of the 2030 Agenda for Sustainable Development](#). They are linked to the 2030 Agenda's Goal 14: Life Below Water and Target 14.5 "By 2020, conserve at least 10% of coastal and marine areas, consistent with national and international law and based on the best available scientific information." They are also linked to Goal 15: Life on Land and Target 15.1 "By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements."

Related indicators

[Canada's conserved areas](#) indicators report the amount and proportion of Canada's terrestrial and marine area that is conserved. They include both protected areas and other effective area-based conservation measures.

³ Dudley N (ed.) (2013) [Guidelines for Applying Protected Area Management Categories](#). Gland, Switzerland, page 8. Retrieved on July 5, 2019.

⁴ While other effective area-based conservation measures do not meet the international definition of a protected area, they remain valuable conservation tools and contribute towards global conservation.

Data sources and methods

Data sources

The data used for the indicator are from the June 2019 update of the Protected Planet Live Report 2019 and the July 2019 version of the World Database on Protected Areas (the database), available on [Protected Planet](#).⁵ Governments and non-governmental organizations provide their data to the database. Only protected areas that meet the International Union for Conservation of Nature definition are used for calculating protected area coverage: "A protected area is a clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long term conservation of nature with associated ecosystem services and cultural values."

More information

The United Nations Environment Programme World Conservation Monitoring Centre compiles the data provided by protected area authorities. For example, government agencies provide data on federal protected areas, sub-national agencies provide data on sub-national areas, non-governmental organizations may provide data on protected areas they own and manage, communities may provide data on the areas they protect and manage, and so on.

For Canada, the data providers include:

- the Government of Canada, for the Canadian Protected and Conserved Areas Database
- the Government of Quebec, for protected areas under their jurisdiction
- Ramsar Secretariat, on behalf of Ramsar Contracting Parties, for wetlands recognized under the Ramsar Convention
- The United Nations Educational, Scientific and Cultural Organization (UNESCO), for World Heritage Sites

The capacity, methods and formats of data management vary among data providers; therefore, the database is a mosaic of geographic information system data at varying levels of completeness, resolution and quality. Nevertheless, data must meet a minimum [standard](#). If an area is no longer protected, it is removed from the database.

Data from the database are global and include all protected areas recorded as existing in July 2019. Antarctica is excluded because it cannot be attributed to any particular nation. For this reason, it is not included under the jurisdictional clause of the United Nations Convention on Biological Diversity.

International comparisons in the indicator are restricted to a set of 10 countries. Selected countries are the Group of 7 (G7), Australia (the population, population density and territorial extent are similar to Canada), the Russian Federation (a large northern country like Canada) and Sweden (which has a similar climate).

National and global statistics were compiled from a July 2019 snapshot of the database. The database is updated on a monthly basis as new data are received. However, there is a time lag between when a data provider submits its data and when it is updated in the database. This is due to time needed to review, verify and analyze the data. Although data providers may submit their data as information becomes available, updates are requested at least every 5 years. At any given time, data from different countries may have different date stamps.

⁵ Some data providers restrict the redistribution of their data. Data from these providers are used in the analyses but are not available publicly.

Methods

The reported values are based on analyses conducted by the United Nations Environment Programme World Conservation Monitoring Centre. These analyses support the [Protected Planet Live Report 2019](#) and the monthly update of the [Protected Planet](#) website. A spatial analysis uses the boundaries (or estimated boundaries) of sites to account for overlaps and calculate the overall protected area coverage of each country.

More information

The World Database on Protected Areas (the database) is held within a geographic information system. It stores information about protected areas, including attributes such as their name, designation, date of designation and documented area, as well as their geographic location as a point or a polygon.

Data selection

All sites included in the database are used for protected area coverage analyses, with the exception of:

- sites that have a status of Proposed or Not Reported
- sites submitted as points with no reported area
- United Nations Educational, Scientific and Cultural Organization (UNESCO) Man and the Biosphere Reserves, on the basis that the buffer and transitional zones of many of these sites are not protected. Core zones are usually protected areas designated at a national level and are typically accounted for in the analyses

Sites with an unknown year of establishment are treated as if they had been protected prior to 1990.

National analyses of marine protected area are conducted for the combined territorial sea and exclusive economic zone of each country.⁶ Claimed areas of the continental shelf are not considered.

National totals

[Methodology](#) is provided by the United Nations Environment Programme World Conservation Monitoring Centre.

A spatial analysis by the World Conservation Monitoring Centre was used to estimate the total territorial area protected. If the boundaries of a site were not known, but its location and extent were known, it was modelled as a circular buffer around its point location. All of the site boundaries (polygons) were combined into a single protected areas data layer. This provides a total adjusted for overlaps among different polygons.

The protected areas layer was intersected with country boundaries, including coastlines and marine boundaries, to estimate the total protected area coverage (in square kilometres) by country. For each country or territory, the proportion of terrestrial area protected was calculated by dividing the total area of terrestrial protected areas by the total area of its land (including inland waters). The proportion of marine area protected was calculated by dividing the total area of marine protected areas by the total national area of the territorial seas and exclusive economic zone.

Global totals

Global terrestrial and marine totals were obtained from the merged protected areas data layer. The global terrestrial protected areas coverage (percentage) was calculated by dividing the total area of terrestrial protected areas by the global terrestrial area (total of all national areas). Antarctica was excluded from the analysis.

The global marine protected areas coverage was calculated by dividing the total area of marine protected areas by the global marine area. Global marine area includes territorial seas, exclusive economic zones and areas beyond national jurisdiction (beyond 200 nautical miles), often referred to as the "high seas."

⁶ Territorial sea is the area from the shoreline out to 12 nautical miles. The exclusive economic zone is the area of the sea adjacent to and beyond the territorial sea, extending out to 200 nautical miles from the shoreline.

Caveats and limitations

The indicator is based on a compilation of data from many providers and data quality is variable.

Because protected areas vary in the type and degree of protection, comparisons between countries should be made with caution. The extent to which the lands and waters of a country are protected is a useful indicator of conservation effort. However, it is not an indication of how well managed protected areas are, nor does it mean that protection measures are effectively enforced.

Differences between this indicator and Canada's national estimates should be expected due to a number of factors, including differences in [methodology](#) and recency of data.

More information

The indicator reports on only protected areas recognized under the international definition that have been reported to the database. There are many other types of conserved areas and stewardship activities that are important for conserving biodiversity. For example, in [Canada's national reporting](#), marine refuges are used as a measure of marine conservation effort. Marine refuges are long-term fisheries area closures identified as "other effective area-based conservation measures" as described in Aichi Target 11.

Data availability and quality are improving, but not evenly across the globe. Data on protected area coverage are available for over 190 countries and territories. However, there are known gaps.

Sources of discrepancies between the global estimates for Canada and Canada's national reporting on protected areas

The United Nations Environment Programme World Conservation Monitoring Centre calculates national and global protected area coverage through a series of spatial analyses of the World Database on Protected Areas. Differences in Canada's methodology and the World Conservation Monitoring Centre's methodology have been reduced but still exist.

The date stamps of Canada's national reporting and the global estimates for Canada can vary. Canada's national reporting was based on a December 31, 2018 snapshot of the Canadian Protected and Conserved Areas Database. The global estimates from the World Database on Protected Areas were taken from the July 2019 update. However, the data used by the World Conservation Monitoring Centre to calculate the protected areas coverage for Canada has earlier date stamps. The World Conservation Monitoring Centre's estimates for Canada are based on:

- a 2017 snapshot of the Canadian Protected and Conserved Areas Database, excluding sites reported by Quebec, updated in the World Database on Protected Areas in December 2018
- protected areas data from Government of Quebec, updated in the World Database on Protected Areas in March 2019
- World Heritage Site and Ramsar data, updated in the World Database on Protected Areas prior to 2018

Because of the way in which the World Database on Protected Areas is compiled, recently designated areas may not appear in the database.

Canada's national reporting uses interim protected areas in the calculation of protected area coverage, whereas the global estimates do not.

The global and national analyses use different map projections and geographic base layers, as appropriate to the scale of the analyses. These cause differences in the estimated area of protected areas as well as in the baseline areas for terrestrial and marine territory.

In Canada, marine and terrestrial areas are labelled by the reporting jurisdiction and this information is used in the Canadian analysis. For the World Conservation Monitoring Centre analyses, polygons are divided into marine and terrestrial categories using mapped coastlines. Because most of Canada's marine protected area is coastal, these methodological differences contribute to small discrepancies between the estimates.

Resources

References

Dudley N (ed.) (2013) [Guidelines for Applying Protected Area Management Categories](#). Gland, Switzerland. Retrieved on July 5, 2019.

United Nations Environment Programme World Conservation Monitoring Centre (2017) [World Database on Protected Areas User Manual v1.5](#). Cambridge, UK. Retrieved on July 5, 2019.

United Nations Environment Programme World Conservation Monitoring Centre and International Union for Conservation of Nature (2019) [World Database on Protected Areas. Global Stats](#). July 2019 release. Retrieved on July 5, 2019.

United Nations Environment Programme World Conservation Monitoring Centre, International Union for Conservation of Nature and National Geographic Society (2018) [Protected Planet Report 2018](#) (PDF; 11.2 MB). Cambridge UK; Gland, Switzerland; and Washington, D.C., USA. Retrieved on July 5, 2019.

United Nations Environment Programme World Conservation Monitoring Centre, International Union for Conservation of Nature and National Geographic Society (2019) [Protected Planet Live Report 2019](#). Cambridge UK; Gland, Switzerland; and Washington, D.C., USA. Retrieved on July 5, 2019.

Related information

[Biodiversity Indicators Partnership](#)

[Convention on Biological Diversity](#)

[Digital Observatory for Protected Areas](#)

Annex

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

Table A.1. Data for Figure 1. Proportion of global area protected as reported in June 2019 and global 2020 targets

Territory	Area protected (percentage)	Target for area protected (percentage)
Terrestrial	15	17
Marine	7.6	10

Note: Antarctica is not included. The analysis uses only data for areas that meet the international definition of a protected area.

Source: United Nations Environment Programme World Conservation Monitoring Centre, International Union for Conservation of Nature and National Geographic Society (2019) [Protected Planet Live Report 2019](#). Chapter 2, last chapter update June 2019.

Table A.2. Data for Figure 2. Area protected and proportion of territory protected, selected countries, 2019

Country	Terrestrial area (thousands of square kilometres)	Terrestrial area protected (thousands of square kilometres)	Terrestrial area protected (percentage)	Marine area (thousands of square kilometres)	Marine area protected (thousands of square kilometres)	Marine area protected (percentage)
Russian Federation	16 875	1 641	9.7	7 673	228	3.0
Australia	7 722	1 488	19.3	7 432	3 014	40.6
United States	9 490	1 233	13.0	8 591	3 526	41.0
Canada	9 955	1 061	10.7	5 698	166	2.9
France	549	143	26.0	344	155	45.0
Germany	358	135	37.9	56	26	45.4
Japan	374	110	29.4	4 041	333	8.2
United Kingdom	245	70	28.7	723	209	28.9
Sweden	449	66	14.7	155	24	15.2
Italy	301	65	21.5	539	47	8.8
Global excluding Antarctica^[A]	134 918	20 209	15.0	362 330	27 537	7.6

Note: ^[A] The global total excluding Antarctica is published in the [Protected Planet Live Report 2019](#). Marine areas include territorial seas and exclusive economic zones. The analysis uses only data for areas that meet the international definition of a protected area. Data from a single source are used to ensure consistency among countries. For authoritative Canadian national reporting, see [Canada's conserved areas](#) indicator.

Source: United Nations Environment Programme World Conservation Monitoring Centre and International Union for Conservation of Nature (2019) [World Database on Protected Areas. Global Stats](#). July 2019 release. United Nations Environment Programme World Conservation Monitoring Centre, International Union for Conservation of Nature and National Geographic Society (2019) [Protected Planet Live Report 2019](#). Chapter 2, last chapter update June 2019.

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