



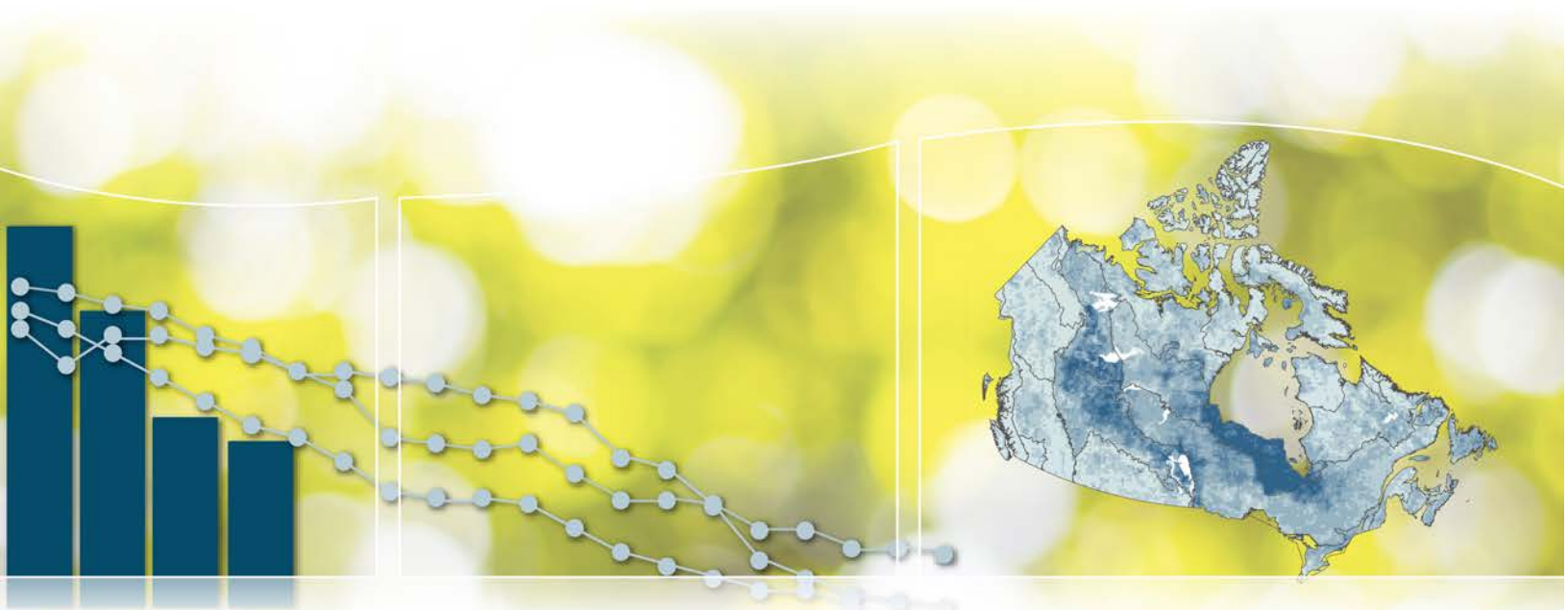
Environment and
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Canadian Environmental Sustainability Indicators

Global trends in protected areas



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Canadian Environmental Sustainability Indicators

Global trends in protected areas

August 2017

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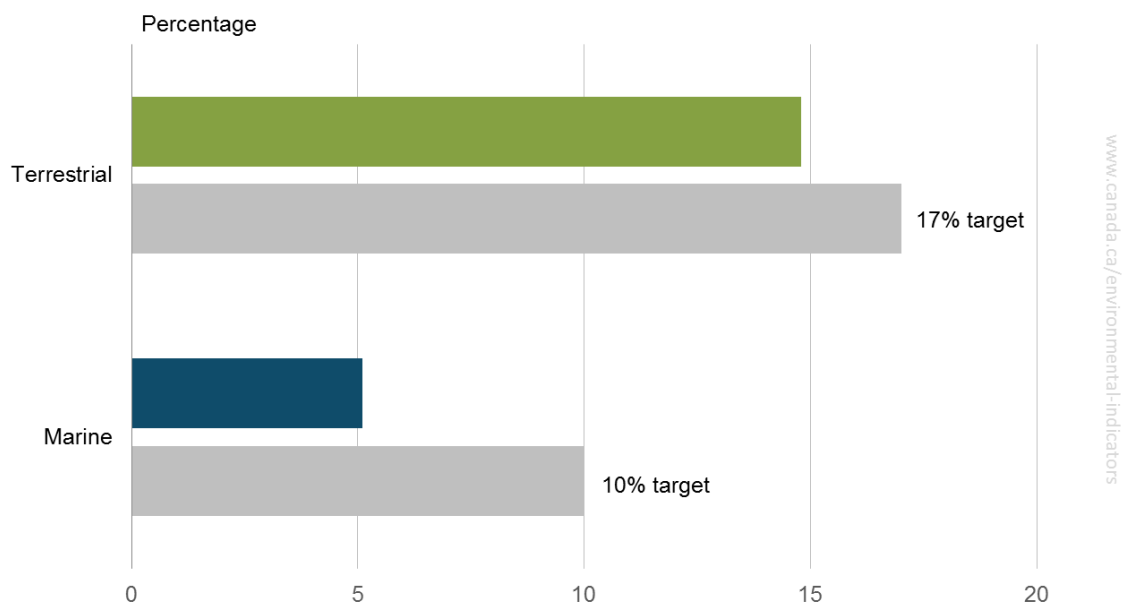
Global trends in protected areas indicator

To contribute to preserving biodiversity and ecosystem services, nations continue to improve their network of protected areas. Based on an international data source, this indicator provides a comparable overview of how countries are doing in protecting their territory.¹

Key results

- In 2016, at the global level:
 - 14.8% of terrestrial area, including freshwater, was protected, an increase of almost 80% since 1990
 - 5.1% of marine areas, including international waters, were protected, 10 times more than in 1990
- Governments across the globe have committed to ensuring that 17% of terrestrial and 10% of marine areas will be protected by 2020

Figure 1. Global protected areas in 2016 and targets in 2020



[Data for Figure 1](#)

Note: Antarctica is not included.

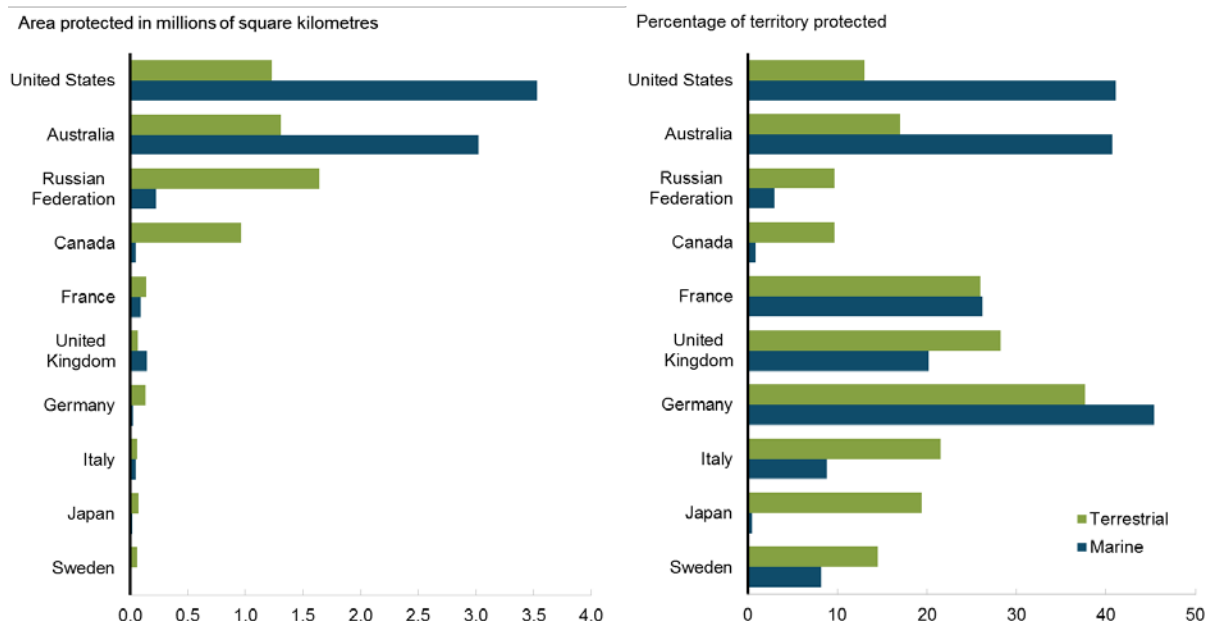
Source: International Union for Conservation of Nature (2017). United Nations Environment Programme World Conservation Monitoring Centre (2016). World Database on Protected Areas (2016) December release.

¹ Due to differing data sources and methods, estimates for Canada in this indicator differ from [Canada's protected areas](#), Canada's authoritative national indicator.

While Canada² protects a large area, its proportion of terrestrial area and marine waters³ protected is lower than average.

Among a group of 10 countries,⁴ Canada ranked fourth in total terrestrial area protected, behind the Russian Federation, Australia and the United States. In terms of marine area protected, Canada was sixth behind the United States, Australia, the Russian Federation, the United Kingdom, and France.

Figure 2. Protected area and protection of territory protected, selected countries, 2016



[Data for Figure 2](#)

Note: Countries are ordered by total (terrestrial plus marine) area protected. Marine areas include territorial seas and exclusive economic zones. Data from a single source are used here to ensure consistency among countries. For authoritative Canadian national reporting, see [Canada's protected areas](#) indicator.

Source: International Union for Conservation of Nature (2017). United Nations Environment Programme World Conservation Monitoring Centre (2016). World Database on Protected Areas (2016) December release.

Protected areas are established with different management objectives and have different degrees of biodiversity protection, although all protected areas are managed for conservation purposes. Differences in management objectives are recognized by the International Union for Conservation of Nature as different [protected areas categories](#). Almost 40% of global protected areas with an assigned management category belong to Category V or VI, which allows sustainable use compatible with conservation, and may be used to preserve cultural landscapes.

Because protected areas vary in the type and degree of protection, and because the interpretation of management categories varies among countries, comparisons should be made with caution.

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

² Due to differing data sources and methods, estimates for Canada in this indicator differ from [Canada's protected areas](#), Canada's authoritative national indicator.

³ Canada's [marine territory](#) is its combined territorial sea and exclusive economic zone.

⁴ Selected countries are the G7 (Canada, France, Germany, Italy, Japan, United Kingdom, United States), Australia (the population, population density and territorial extent of which are similar to Canada's), Russian Federation (a large northern country like Canada) and Sweden (which has a similar climate).

About the indicator

What does the indicator measure

The indicator reports on the terrestrial and marine area afforded protection for conservation globally. Additional information is provided showing a comparison among 10 selected countries. Information on protected areas is collected, analyzed and made available by the World Database on Protected Areas to support a number of international reporting initiatives.

The internationally accepted definition of a protected area is "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."⁵

Why is this indicator important

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 Report 2016](#) describes how protected areas are contributing to the targets⁶ of the Convention on Biological Diversity Aichi Targets. Target 11 is "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."

The Protected Planet report and [Global Biodiversity Outlook 4](#) have noted that the world is on track to achieve the protection of 17% of terrestrial area by 2020, but is far from achieving protection of 10% of the global ocean.

Protected areas also contribute to 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" 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" of the Sustainable Development Goals of the [2030 Agenda for Sustainable Development](#).

What are the related indicators

[Canada's protected areas](#), provide authoritative national territorial and marine protected area. Regional summaries are provided in [Protected areas, by province and territory](#) and in [Protected areas, by ecological region](#).

⁵ Dudley N (ed.) (2013) [Guidelines for Applying Protected Area Management Categories](#). Gland, Switzerland, page 8. Retrieved on October 25, 2016.

⁶ Often referred to as the "Aichi Targets."

Data sources and methods

What are the data sources

The data are from the World Database on Protected Areas, available on [Protected Planet](#),⁷ the only database on the world's protected areas. Data are provided by governments and non-governmental organizations, including the Government of Canada and the Government of Quebec. Sites included in the World Database on Protected Areas must meet the International Union for Conservation of Nature definition of protected areas: "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 World Database on Protected Areas is compiled by the United Nations Environment Programme World Conservation Monitoring Centre from 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. The capacity, methods and formats of data management vary within and between data providers; therefore, the World Database on Protected Areas is a mosaic of geographic information system data at varying levels of completeness, resolution and quality. Nevertheless, data must meet a minimum [standard](#).

Data from the World Database on Protected Areas are global and include all protected areas recorded as existing in December 2016. Antarctica is excluded because it cannot be attributed to any particular national biodiversity protection effort and is therefore not included under the jurisdictional clause of the United Nations Convention on Biological Diversity. Areas that are no longer protected are removed from the database.

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

National and global statistics were compiled from a December 2016 snapshot of the database. The World Database on Protected Areas is updated as data are received. Although data providers are welcome to update their data as information becomes available, updates are requested every 5 years at a minimum. At any given time, the data from different countries may have different date stamps.

How is this indicator calculated

The values reported are based on an analysis completed by the United Nations Environment Programme World Conservation Monitoring Centre to support the [Protected Planet Report 2016](#) and an [update](#) prepared in December 2016. A spatial analysis uses the boundaries (or estimated boundaries) of established protected areas to correct for overlaps and generate estimates of an overall total area protected by each country.

More information

The World Database on Protected Areas is held within a geographic information system that 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 boundary.

⁷ Some countries restrict the redistribution of their data; these data are not available publicly.

Data selection

All areas in the database are included, with the following exceptions:

- areas that have a status of Proposed or Not reported.
- protected areas with an unknown location and/or extent.
- man and the Biosphere Reserves, on the advice of the United Nations Educational, Scientific and Cultural Organization (UNESCO) Man and the Biosphere Programme, in which they have stated only the core zone of Man and the Biosphere Reserves may be considered protected. These zones are not well defined in the World Database on Protected Areas, and the effect of their exclusion is small as they often overlap with other types of protected areas.

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

National analyses of marine protection are conducted for the combined territorial sea and exclusive economic zone⁸ of each country; claimed areas of continental shelf are not considered.

National totals

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

A spatial analysis was used to estimate the total territorial area protected. If the boundaries of a protected area were not known, but its location and extent were known, it was modelled as a circular buffer around its point location. A global protected area layer was created by combining the boundaries (polygons) of the protected areas into a single data layer. Overlaps are thus removed.

The protected area layers were intersected with country boundaries, including coastlines and marine boundaries, to obtain the absolute coverage (in square kilometres) of protected areas by country, divided into marine and terrestrial. The total terrestrial protected area of a country or territory was divided by the total area of its land (including inland waters) to obtain the relative coverage (percentage) of protected area. The total marine protected area was divided by the total national area of the territorial seas and exclusive economic zone combined.

Global totals

Global terrestrial and marine totals were obtained from the merged protected areas data layer. The global terrestrial total was divided by the global terrestrial area (total national area) to obtain the relative coverage (percentage) of protected area. Antarctica is excluded.

The global marine total was divided by the global marine area, including territorial seas, exclusive economic zones and areas beyond national jurisdiction (beyond 200 nautical miles), often referred to as the High seas.

Increases in area protected were calculated by dividing the difference in area (later year minus earlier year) by the total area protected in the earlier year.

⁸ Territorial sea is defined as the area of the sea from the shoreline out to 12 nautical miles. The exclusive economic zone is an area of the sea adjacent to and beyond the territorial sea, extending out to 200 nautical miles from low water lines.

What has recently changed

The data in the World Database on Protected Areas are updated and revised frequently. Accuracy and completeness continue to improve. Areas that have a status of Proposed or Not reported are no longer included in the analysis.

The estimate of terrestrial area protected is smaller than reported in 2014, because some sites are no longer included. These may be no longer protected or a review has shown that they should not have been included previously.

The Canadian portion of the Great Lakes is now included in the Canadian totals.

What are the caveats and limitations

The indicator is based on a compilation of data from many providers and data quality is variable. Furthermore, different protected areas are designed for different conservation purposes, and comparisons should be made with this in mind. 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.

More information

The indicator does not include conservation measures other than Protection under the internationally recognized definition. There are many other types of conserved areas and stewardship activities that are important for conserving biodiversity.

Data availability, both in terms of quantity and quality, is improving, but not evenly across the globe. Data on protected area coverage are available for over 190 countries and territories. There are known data and knowledge gaps for some countries/regions.

Sources of discrepancies between global estimates and Canada's national figures

The United Nations Environment Programme World Conservation Monitoring Centre (the centre) calculates national and global protected area through a series of geographical analyses. Differences in Canada's methodology and the centre's methodology have been reduced but still exist. The Canadian analysis includes interim protected areas. 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 Database on Protected Areas analysis, polygons are divided into marine and terrestrial categories using mapped coastlines. Because most of the Canadian marine protected area is coastal, these methodological differences contribute to discrepancies between the estimates.

Data underlying the global and national indicators are ultimately derived from the same sources, but in general will have different date stamps. Because of the way in which the World Database on Protected Areas is compiled, recently designated areas may not appear in the database.

Resources

References

Dudley N (ed.) (2013) [Guidelines for Applying Protected Area Management Categories](#). Gland, Switzerland. Retrieved on October 25, 2016.

United Nations Environment Programme World Conservation Monitoring Centre (2014) [Protected Planet Report 2014: Tracking progress towards global targets for protected areas](#). Retrieved on October 25, 2016.

United Nations Environment Programme World Conservation Monitoring Centre (2016) [Protected Planet Report 2016: Global update \(December 2016\)](#). Retrieved on December 20, 2016.

United Nations Environment Programme World Conservation Monitoring Centre (2016) [Protected Planet Report 2016: How protected areas contribute to achieving global targets for biodiversity](#). Retrieved on December 20, 2016.

United Nations Environment Programme World Conservation Monitoring Centre (2016). [World Database on Protected Areas User Manual 1.4](#). Cambridge, UK. Retrieved on October 25, 2016.

Related information

[Biodiversity Indicators Partnership](#)

[Convention on Biological Diversity](#)

[Digital Observatory for Protected Areas](#)

[World Database on Protected Areas, hosted on Protectedplanet.net](#)

Annex

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

Table A.1. Data for Figure 1. Global protected areas in 2016 and targets in 2020

Territory	Area protected (percentage)	Target for protected area (percentage)
Terrestrial	14.8	17
Marine	5.1	10

Note: Antarctica is not included.

Source: International Union for Conservation of Nature (2017). United Nations Environment Programme World Conservation Monitoring Centre (2016). World Database on Protected Areas (2016) December release.

Table A.2. Data for Figure 2. Protected area and protection of territory protected, selected countries, 2016

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)
United States	9490	1231	13.0	8591	3530	41.1
Australia	7722	1311	17.0	7432	3021	40.7
Russian Federation	16 875	1640	9.7	7673	228	3.0
Canada	9955	964	9.7	5698	50	0.9
France	549	143	26.0	344	90	26.2
United Kingdom	245	69	28.2	723	146	20.2
Germany	358	135	37.7	56	26	45.4
Italy	301	65	21.5	539	47	8.8
Japan	374	72	19.4	4041	20	0.5
Sweden	449	65	14.5	155	13	8.2
Global excluding Antarctica^[A]	134 918	19 970	14.8	362 330	18 545	5.1

Note: Countries are ordered by total (terrestrial plus marine) area protected. Marine areas include territorial seas and exclusive economic zones. Data from a single source are used here to ensure consistency among countries. For authoritative Canadian

national reporting, see [Canada's protected areas](#) indicator.

^[A] The global total excluding Antarctica is the officially published global figure of the International Union for Conservation of Nature and of the United Nations Environment Programme World Conservation Monitoring centre for 2016.

Source: International Union for Conservation of Nature (2017). United Nations Environment Programme World Conservation Monitoring Centre (2016). World Database on Protected Areas (2016) December release.

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