Protected Planet Report 2018

Tracking progress towards global targets for protected areas

UN environment WCMC IUCN WCPA WORLD COMMISSION ON PROTECTED AREAS NATIONAL GEOGRAPHIC protected planet

Protected Planet Report 2018

Tracking progress towards global targets for protected areas

Copyright

ISBN No: 978-92-807-3721-9
Job No: DEP/2203/CA

Citation

UNEP-WCMC, IUCN and NGS (2018). Protected Planet Report 2018. UNEP-WCMC, IUCN and NGS: Cambridge UK; Gland, Switzerland; and Washington, D.C., USA.

The **UN Environment World Conservation Monitoring Centre (UNEP-WCMC)** is the specialist biodiversity centre of UN Environment, the world's foremost intergovernmental environmental organisation. The Centre has been in operation for almost 40 years, combining scientific research with practical policy advice.

The **International Union for Conservation of Nature (IUCN)** is the world's oldest and largest global environmental organisation, with more than 1,200 government and NGO members and almost 11,000 volunteer experts in some 160 countries. IUCN's work is supported by over 1,000 staff in 45 offices and hundreds of partners in public, NGO and private sectors around the world.

The **National Geographic Society (NGS)** is a leading non-profit that invests in bold people and transformative ideas in the fields of exploration, scientific research, storytelling and education. The Society aspires to create a community of change, advancing key insights about the planet and probing some of the most pressing scientific questions of our time, all while ensuring that the next generation is armed with geographic knowledge and global understanding. Its goal is measurable impact: furthering exploration and educating people around the world to inspire solutions for the greater good

The contents of this report do not necessarily reflect the views or policies of UN Environment, IUCN, NGS, contributory organisations or editors. The designations employed and the presentations of material in this report do not imply the expression of any opinion whatsoever on the part of UN Environment, IUCN NGS, or contributory organisations, editors or publishers concerning the legal status of any country, territory, city, area or its authorities, or concerning the delimitation of its frontiers or boundaries or the designation of its name, frontiers or boundaries. 195 states and the European Union are parties to the CBD. The United States of America and the Holy See are not parties to the CBD. The mention of a commercial entity or product in this publication does not imply endorsement by UN Environment, IUCN or NGS.

UNEP World Conservation Monitoring Centre (UNEP-WCMC)
219 Huntingdon Road,
Cambridge CB3 0DL, UK
Tel: +44 1223 277314
www.unep-wcmc.org

Contributors

EDITORS

Elise Belle, Naomi Kingston and Neil Burgess (UNEP-WCMC); Trevor Sandwith and Natasha Ali (IUCN); and Kathy MacKinnon (IUCN WCPA).

AUTHORS AND CONTRIBUTORS

Lead authors:

Chapter 1: Elise Belle; **Chapter 2:** Edward Lewis; **Chapter 3:** Diego Juffe-Bignoli; **Chapter 4:** Yichuan Shi; **Chapter 5:** Neil Burgess; **Chapter 6:** Heather Bingham; **Chapter 7:** Elise Belle; **Chapter 8:** Heather Bingham; **Chapter 9:** Nina Bhola; **Chapter 10:** Elise Belle

Other contributors:

This report also benefited from the expertise of the following contributing authors (in alphabetical order for each institution):

- William Carney, Colleen Corrigan, Marine Deguignet, Joe Gosling, Jessica Stewart, Judith Walcott and Sylvia Wicander (UNEP-WCMC);
- Thomas Brooks, Marie Fischborn (Box 17), Matea Osti (Box 8) and Elena Osipova (Box 8) (IUCN);
- Jonathan Baillie, Dan Myers, Enric Sala and Therese Tepe (National Geographic Society);
- Sarat Babu Gidda (Convention on Biological Diversity, Secretariat);
- Stuart Butchart and Andrew Plumptre (Chapter 3) (BirdLife International);
- Phil Franks (Box 9) (International Institute for Environment and Development, IIED); and
- Mike Hoffmann and Nisha Owen (Chapter 3) (Zoological Society of London, ZSL).

Photo credits

Front cover: Top: Chagos Archipelago, United Kingdom, Copyright: Mark Laidre, National Geographic; Bottom: Masai village, Kenya, Copyright: Elise Belle; Central: Ras Muhammed National Park, Egypt, Copyright: https://commons.wikimedia.org/wiki/File:Ras_Mohammed_coral_reefs.jpg; Left: Great Barrier Reef, Australia, Copyright: David Doubilet, National Geographic; Right: Fraser Island, Australia, Copyright: Elise Belle; Page 1: Yellowstone National Park, United States of America, Copyright: Michael Nichols, National Geographic; Page 5: Lions, Masai Mara National park, Copyright: Elise Belle; Page 10: Pitcairn Island, United Kingdom, Copyright: Enric Sala, National Geographic; Page 16: Reach Falls, Jamaica, Copyright: Elise Belle; Page 17: Pelicans, Djouj National Park, Senegal, Copyright: Elise Belle; Page 21: Soca River, Slovenia, Copyright: Elise Belle; Page 27: Galapagos Islands, Ecuador, Copyright: Enric Sala, National Geographic; Page 28: Guanaco, Torres del Paine, Chile, Copyright: Gregoire Dubois; Page 30: Clownfish, Great Barrier Reef, Australia, Copyright: David Doubilet, National Geographic; Page 34: Amboseli National Park, Kenya, Copyright: Elise Belle; Page 35: River Number two, Sierra Leone, Copyright: Elise Belle; Page 38: Blue-breasted bee-eater, Loango National Park, Gabon, Copyright: Gregoire Dubois; Page 39: Kyzyk-Oi, Kokomeren River Valley, Kyrgyzstan, Copyright: Elise Belle; Page 42: Canal des Pangalanes, Madagascar, Copyright: Elise Belle; Page 43: Pitcairn Island, United Kingdom, Copyright: Enric Sala, National Geographic; Page 46: Galapagos Islands, Ecuador, Copyright: James L. Stanfield, National Geographic; Page 47: Yosemite National Park, United States of America, Copyright: Jimmy Chin, National Geographic; Page 51: Masai Mara National Park, Kenya, Copyright: Elise Belle.

Acknowledgements

The Protected Planet Report 2018 is the result of a collaborative effort involving many institutions and individuals from around the world.

This report would not have been possible without the financial support of the National Geographic Society and the Ministry of the Environment of Finland, who funded this report as well as its online version.

Members of the IUCN World Commission on Protected Areas (IUCN WCPA) have been supportive of the production of this Protected Planet Report. We would like to thank the following individuals for their valuable time and expertise: Neville Ash, Anna Feeney, Stephanie Foote, Daniela Guaras, Roger Ingle, Charlotte Lezemore, Brian MacSharry, Chris McOwen, Emily Neville, Corli Pretorius, Molly Robertson, (UNEP-WCMC); Bastian Bertzky, Santiago Saura and Gregoire Dubois (Joint Research Centre, European Commission); Paul Donaldson and Gill Bunting (BirdLife International); James Watson and Kendall Jones (Wildlife Conservation Society); and James Hardcastle (IUCN). The translation of the Executive Summary was provided by Elise Belle for French, Diego Juffe-Bignoli for Spanish, Mohamed Talaat El-Hennawy for Arabic, Sarah Ivory, Evgeny Dmitriev and Elena Osipova for Russian, and Ran Zhang, Han Meng and Yichuan Shi for Chinese.

We are particularly grateful to the Proteus Partnership, the Biodiversity and Protected Areas Management (BIOPAMA) programme, the European Environment Agency (EEA) and the Secretariat of the Convention on Biological Diversity (CBD) for supporting data collection and analyses for the production of this report. We would also like to thank the following institutions for their inputs to the development of this report, including support to data collection for the World Database on Protected Areas (WDPA): Joint Research Centre, European Commission; German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB); Global Forest Watch; BirdLife International; the Global Environmental Facility; World Wide Fund for Nature; Zoological Society of London; and the European Environment Agency.

Finally, we are very thankful to all the government agencies and organisations that have provided information on protected areas that is the basis for the global protected areas analyses in this report.

Contents

Foreword

With two years to go until 2020, the Protected Planet Report 2018 confirms that significant progress has been made to accelerate protection of biodiversity on land and in the ocean.

Based on the world's most up to date records in the World Database on Protected Areas, managed jointly by UNEP-WCMC and IUCN, the report confirms that almost 15% of the earth's land surface and inland waters, and just above 7% of the global ocean is now protected. However, marine areas under national jurisdiction have significantly more protection (17%) than Areas Beyond National Jurisdiction, with only slightly over 1% of protection.

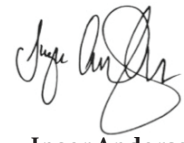
The report further outlines the significance of this progress, as the conservation of biodiversity in protected and conserved areas provides the foundation for achieving the whole suite of Sustainable Development Goals. In particular, the ecosystem services of the world's protected areas underpin global needs to address climate change; protect water sources and food production systems; alleviate disaster risk; and maintain health, well-being and the livelihoods of millions of people.

Progress is only possible if these systems are well connected and integrated into the wider landscapes and seascapes, if they are governed equitably and managed effectively, and if they stem the loss of biodiversity. While providing up to date information on the status and trends of many of these attributes, the report emphasizes the need to address lags and under-performance. One of the biggest opportunities is to identify and recognise the "hidden conservation" being undertaken outside of government action. Indigenous peoples and local communities and private entities are all making essential contributions and these must be better documented, with their consent and participation, to ensure that decisions are based on the best available science and information.

In the lead up to 2020, the review date of the Aichi Biodiversity Targets, this report signals clear priorities for further action and highlights important opportunities to consolidate efforts towards achieving significant progress towards Aichi Target 11 and the Strategic Plan for Biodiversity 2011-2020. It provides the final springboard for further ambition, partnership and progress for the next two years, marking what is possible for the post-2020 global framework on biodiversity, to be adopted at the 2020 United Nations Biodiversity Conference.

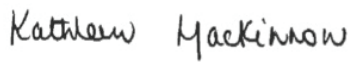
Neville Ash
Director, UN Environment World Conservation Monitoring Centre

Erik Solheim
Executive Director, UN Environment



Inger Andersen
Director General, IUCN

Cristiana Pașca Palmer
Executive Secretary, United Nations Convention on Biological Diversity



Kathy MacKinnon
Chair, IUCN World Commission on Protected Areas

Jonathan Baillie
Executive Vice President and Chief Scientist, National Geographic Society

Executive Summary

In 2010, Parties to the Convention on Biological Diversity (CBD) adopted a Strategic Plan for Biodiversity 2011-2020, including its 20 Aichi Biodiversity Targets, in order to address biodiversity loss, ensure the sustainable use of natural resources, and equitable sharing of benefits.

The *Protected Planet Report* 2018 provides an update of progress towards Aichi Biodiversity Target 11 at the global scale. Each chapter of the report examines a specific element of Target 11. The findings in the report are based on data held in the World Database on Protected Areas (WDPA) as of July 2018. For the first time, the printed *Protected Planet Report* is complemented by an online version, regularly updated with all the latest data, which can be explored at the following address: www.livereport.protectedplanet.net.

Since the Strategic Plan was adopted, there has been significant progress towards achieving elements of Aichi Target 11, particularly in terms of land and sea coverage. However, significant efforts are needed to achieve other elements of the target.

Key messages from this report include:

- There has been good progress in expanding the coverage of both terrestrial and marine protected areas (Chapter 2), with marine coverage increasing faster than terrestrial coverage. With concerted efforts from governments to implement national commitments, both terrestrial and marine coverage targets may be achieved by 2020.
- There is insufficient protection of areas of importance for biodiversity and ecosystem services through systems of protected and conserved areas (Chapter 3), however, significant progress has been made in the protection of Key Biodiversity Areas in coastal areas.
- Systems of protected areas are now covering a wider range of ecosystems (Chapter 4), with particular improvements in marine areas. However, the protection of offshore oceans and freshwater ecoregions is lagging behind.
- Protected areas that are effectively managed (Chapter 5) generally lead to improved biodiversity outcomes. However, only 20% of the total coverage of protected areas reported in the WDPA has been assessed for management effectiveness according to the Global Database on Protected Areas Management Effectiveness.
- Equitable governance and management of protected areas (Chapter 6) is a key aspect of Aichi Target 11. Although there are several methodologies and a framework for understanding equity in protected areas, assessments have been scarcely implemented.
- Connectivity between protected areas (Chapter 7) is key to maintaining the viability of populations and ecosystems. Metrics to measure connectivity at the global level have been developed and reveal that about half of the global protected area network is connected.
- A definition of 'Other Effective area-based Conservation Measures' (OECMs) (Chapter 8) and guidelines for their identification has been recommended for adoption at the CBD COP 14, however, a global baseline of existing OECMs is required.
- Integration of protected and conserved areas into the wider landscape and seascape (Chapter 9) requires sound spatial planning, which considers biodiversity while contributing to harmonised sectoral development.
- Looking forward (Chapter 10), governments and other stakeholders will shortly review options for a post-2020 global biodiversity framework. Spatial conservation efforts are critical to the conservation of biodiversity and sustainable development. The *Protected Planet Report* series will continue to provide timely information to facilitate the process of developing a new framework.

Résumé

En 2010, les Parties à la Convention sur la diversité biologique (CDB) ont adopté un Plan stratégique pour la diversité biologique 2011-2020, comprenant les 20 Objectifs d'Aichi pour la biodiversité, afin de lutter contre la perte de biodiversité, d'assurer l'utilisation durable des ressources naturelles et le partage juste et équitable des avantages.

Le rapport *Protected Planet* 2018 fournit une mise à jour des progrès accomplis dans la réalisation de l'Objectif 11 d'Aichi pour la biodiversité à l'échelle mondiale. Chaque chapitre du rapport examine un élément spécifique de l'Objectif 11. Les résultats et conclusions du rapport sont basés sur les données de la Base de données mondiale sur les aires protégées (WDPA en anglais) de juillet 2018. Pour la première fois, le rapport imprimé *Protected Planet* est complété par une version en ligne, régulièrement mise à jour avec les dernières données, à explorer à l'adresse suivante: www.livereport.protectedplanet.net.

Depuis l'adoption du Plan stratégique, des progrès significatifs ont été accomplis dans la réalisation de certains éléments de l'Objectif d'Aichi 11, en particulier en termes de couverture terrestre et marine. Cependant, des efforts importants sont nécessaires pour satisfaire d'autres éléments de l'Objectif.

Les messages clefs de ce rapport incluent :

- L'expansion de la couverture en aires protégées terrestres et marines (Chapitre 2) a bien progressé, la couverture marine augmentant plus rapidement que la couverture terrestre. Avec des efforts concertés de la part des gouvernements pour mettre en œuvre les engagements pris au niveau national, les objectifs de couverture terrestre et marine pourraient être atteints d'ici 2020.
- La protection des aires importantes pour la biodiversité et les services écosystémiques par des systèmes d'aires protégées et conservées (Chapitre 3) est insuffisante. Cependant, des progrès significatifs ont été accomplis dans la protection des Zones clés pour la biodiversité dans les zones côtières.
- Les systèmes d'aires protégées couvrent désormais une variété plus large d'écosystèmes (Chapitre 4), avec des améliorations particulières dans les zones marines. Toutefois, la protection des océans en zone extraterritoriale et des écorégions d'eau douce accuse un retard.
- Les aires protégées qui sont gérées efficacement (Chapitre 5) conduisent généralement à de meilleurs résultats en matière de biodiversité. Toutefois, d'après la Base de données mondiale sur l'efficacité de la gestion des aires protégées (GD-PAME en anglais), l'efficacité de la gestion n'a été évaluée que pour 20% de la couverture totale en aires protégées rapportée dans la WDPA.
- La gouvernance et la gestion équitables des aires protégées (Chapitre 6) constituent un aspect essentiel de l'Objectif 11 d'Aichi. Bien qu'il existe plusieurs méthodologies et un cadre permettant de comprendre l'équité dans les aires protégées, peu d'évaluations ont été réalisées jusqu'à présent.
- La connectivité entre les aires protégées (Chapitre 7) est essentielle au maintien de la viabilité des populations et des écosystèmes. Des mesures permettant de mesurer la connectivité au niveau mondial ont été développées et révèlent qu'environ la moitié du réseau mondial d'aires protégées est connecté.
- Une définition des « Autres mesures de conservation efficaces par zone » (OECM en anglais) (Chapitre 8) et des lignes directrices pour leur identification ont été recommandées pour adoption à la COP 14 de la CDB. Cependant, la création d'une base de référence globale des OECM existantes est nécessaire.
- L'intégration des aires protégées et conservées dans le paysage terrestre et marin (Chapitre 9) nécessite une planification spatiale judicieuse, qui prenne en compte la biodiversité tout en contribuant à un développement sectoriel harmonisé.
- Dans la perspective de l'avenir (Chapitre 10), les gouvernements et autres parties prenantes examineront prochainement les options pour un cadre mondial pour la biodiversité après 2020. Les efforts de conservation spatiale sont essentiels à la conservation de la biodiversité et au développement durable. La série de rapports *Protected Planet* continuera à fournir des informations opportunes pour faciliter le processus de développement d'un nouveau cadre.

Resumen Ejecutivo

En 2010, las Partes en el Convenio sobre la Diversidad Biológica (CDB) adoptaron un Plan Estratégico para la Diversidad Biológica 2011-2020, incluidas sus 20 Metas de Aichi para la Biodiversidad, con el objetivo de abordar la pérdida de biodiversidad, asegurar el uso sostenible de los recursos naturales y la distribución equitativa de beneficios.

El Informe *Protected Planet* 2018 proporciona una actualización del progreso hacia la Meta 11 de Aichi para la Diversidad Biológica a escala mundial. Cada capítulo del informe examina un elemento específico de la Meta 11. Los hallazgos en el informe se basan en los datos almacenados en la Base de Datos Mundial sobre Áreas Protegidas (WDPA, por sus siglas en inglés) hasta julio de 2018. Por primera vez, el informe impreso Planeta Protegido se complementa por una versión en línea, actualizada regularmente con todos los datos más recientes, que se pueden explorar en la siguiente dirección: www.livereport.protectedplanet.net

Desde que se adoptó el Plan Estratégico, ha habido un progreso significativo hacia el logro de los elementos de la Meta 11 de Aichi, particularmente en términos de cobertura terrestre y marítima. Sin embargo, se requieren importantes esfuerzos para lograr otros elementos de la meta.

Los mensajes clave de este informe son:

- Ha habido un buen progreso en la expansión de la cobertura de áreas protegidas tanto terrestres como marinas (Capítulo 2), con la cobertura marina creciendo más rápidamente que la cobertura terrestre. Juntando los esfuerzos de los gobiernos para implementar los compromisos nacionales, los objetivos de cobertura tanto terrestres como marinos se pueden alcanzar para el año 2020.
- No existe una protección suficiente de las áreas de importancia para la biodiversidad y los servicios ecosistémicos a través de los sistemas de áreas protegidas y conservadas (Capítulo 3), sin embargo, se han logrado avances significativos en la protección de Áreas Clave para la Biodiversidad en las áreas costeras.
- Los sistemas de áreas protegidas ahora cubren una gama más amplia de ecosistemas (Capítulo 4), con mejoras particulares en áreas marinas. Sin embargo, la protección de los océanos más allá de la costa y de las ecorregiones de agua dulce se está quedando atrás.
- Las áreas protegidas que se manejan de manera efectiva (Capítulo 5) generalmente conducen a mejores resultados para la biodiversidad. Sin embargo, según la Base de datos mundial sobre la efectividad de la gestión de áreas protegidas, solo el 20% de la cobertura total de áreas protegidas incluidas en la WDPA se ha evaluado para determinar la efectividad de la gestión.
- La gobernanza y gestión equitativas de las áreas protegidas (Capítulo 6) es un aspecto clave de la Meta 11 de Aichi. Aunque existen varias metodologías y un marco para comprender la equidad en las áreas protegidas, las evaluaciones se han implementado escasamente.
- La conectividad entre áreas protegidas (Capítulo 7) es clave para mantener la viabilidad de las poblaciones y los ecosistemas. Se han desarrollado métricas para medir la conectividad a nivel global y revelan que aproximadamente la mitad de la red global de áreas protegidas está conectada.
- Una definición de “Otras medidas eficaces de conservación basadas en áreas” (OECM, por sus siglas en inglés) (Capítulo 8) y las pautas para su identificación se recomendaron para su adopción en la COP 14 del CDB, sin embargo, se requiere una línea de base mundial de OECM existentes.
- La integración de áreas protegidas y conservadas en los paisajes terrestres y marinos más amplios (Capítulo 9) requiere una planificación espacial sólida, que considere la biodiversidad al tiempo que contribuye a un desarrollo sectorial armonizado.
- Mirando hacia el futuro (Capítulo 10), los gobiernos y otras partes interesadas revisarán en breve las opciones para un marco de biodiversidad global post-2020. Los esfuerzos de conservación espacial son críticos para la conservación de la biodiversidad y el desarrollo sostenible. La serie de informes *Protected Planet* continuará proporcionando información oportuna para facilitar el proceso

الملخص التنفيذي

اعتمدت الدول الأعضاء في اتفاقية التنوع الحيوي في عام 2010 خطة استراتيجية للتنوع الحيوي، لتنفذ بين أعوام 2011 وحتى 2020، شاملة أهداف «أيتشي» العشرين للتنوع الحيوي، وذلك بغرض تناول قضية فقد التنوع البيولوجي، و التأكيد على الاستخدام المستدام للموارد الطبيعية، والاقتسام العادل للمنافع الناشئة عن تلك الموارد.

ويقدم تقرير الكوكب المحمي لعام 2018 تحديثا للتقدم المحرز نحو تحقيق هدف أيتشي الحادي عشر على المقياس الدولي. حيث يختبر كل فصل من فصول التقرير عنصراً خاصاً من ذلك الهدف. وتتأسس خلاصة التقرير على المعلومات المتواجدة بمركز معلومات المحميات الطبيعية العالمى WDPA حتى عام 2018م. ولأول مرة يقدم التقرير مع نسخة رقمية تغذى بصفة دورية بأحدث المعلومات المتاحة، يمكن استكشافها على الموقع الإليكتروني التالي: www.livereport.protectedplanet.net

وقد حدث تقدم كبير نحو تحقيق بعض عناصر هدف "أيتشي" الحادي عشر منذ اعتماد الخطة الاستراتيجية لا سيما فى سقف الحماية البري والبحري. ومع ذلك، فإن هناك حاجة ماسة إلى تكثيف الجهود نحو تحقيق عناصر أخرى من ذات الهدف.

الرسائل الرئيسة في هذا التقرير تشمل:

- هناك تقدم جيد في امتداد رقعة الحماية على مستوى المحميات الطبيعية الأرضية والبحرية (الفصل الثاني)، حيث يتضح امتداد سقف الحماية البحرية بصورة أسرع منها فى مثيلتها على اليابسة. وتتخذ الحكومات من التدابير الوطنية ما يكفل لها تحقيق التزاماتها نحو امتداد سقف حمايتها للمناطق الأرضية والبحرية لتنفيذ هذا الهدف فى عام2020م.
- لا تلقى المناطق الهامة للتنوع الحيوي وخدمات النظم البيئية الحماية كافية من خلال أنظمة المحميات الطبيعية والمناطق المحمية (الفصل الثالث)، بينما نجد أن هناك تقدماً كبيراً قد تحقق نحو حماية المناطق الهامة الرئيسة للتنوع الحيوي في المناطق الساحلية.
- يغطى نظام المحميات الطبيعية حاليا مدى أشمل من النظم البيئية (الفصل الرابع)، مع تحسن ملحوظ فى المناطق البحرية. ومع ذلك، فإن حماية المناطق البيئية البحرية للمحيطات ونظم المياه العذبة قد جاءت متأخرة.
- إن المحميات الطبيعية التي تحظي بإدارة سليمة (الفصل الخامس) يتحسن بها مستوي التنوع الحيوي. مع العلم بأن 20% فقط من إجمالي المناطق المحمية والمسجلة بقاعدة بيانات التنوع الحيوي الدولية قد تم تقييمها علي أساس كفاءة إدارة المحميات الطبيعية.
- تعتبر الحوكمة العادلة لإدارة المحميات الطبيعية (الفصل السادس) عنصرا رئيسيا من هدف «أيتشي» الحادي عشر. وبالرغم من أن هناك منهجيات عديدة وإطار للعمل تظهر الفهم الجلي للإدارة والحوكمة التشاركية للمحميات الطبيعية وتقييمها، فإن القليل منها يتم تطبيقه.
- يعد الترابط بين المحميات الطبيعية (الفصل السابع) مفتاحا رئيسيا لحفظ حيوية المجتمعات والأنظمة البيئية. إذ تم تطوير مقاييس عالمية عدة لقياس الترابط بين المحميات عكست ترابطاً بين نصف أنظمة شبكة المحميات الطبيعية على مستوى العالم تقريباً.
- إن تعريف ما سمى ب»الإجراءات الأخرى المؤثرة في صون المناطق» (وهى تلك التي تتعلق بإجراءات الصون على الأراضي المملوكة ملكية خاصة) (OECMs) (الفصل الثامن) ومعاييرها قد تمت التوصية بها ليتم اعتمادها فى مؤتمر الأطراف الرابع عشر لاتفاقية التنوع الحيوي، وقد يلزم لها فى تلك الحالة تحديد خط أساس دولي ليتم تطبيقه على ذلك التعريف.
- إن التكامل بين مناطق المحميات الطبيعية ومناطق الصون الأخرى فى نظام أرضى وبحرى أشمل (الفصل التاسع) يستلزم تخطيطاً مكانياً أكثر صدى يأخذ فى الاعتبار التنوع الحيوي ويسهم فى ذات الوقت فى تطوير قطاعي متناغم.
- نظرة مستقبلية (الفصل العاشر)، إن حكومات العالم والجهات ذات الصلة سوف يعيدون النظر فى خيارات الإطار العالمي لعمل التنوع الحيوي لما بعد 2020م. فقد اتضح أن هناك حاجة ماسة لجهود مكانية لصون التنوع الحيوي والتنمية المستدامة. وسوف تستمر تقارير الكوكب المحمي فى تقديم المعلومات المتاحة فى توقيتها المناسب لتسهل عملية تطوير الإطار العالمي المنشود.

Резюме

В 2010 году Стороны Конвенции о биологическом разнообразии (КБР) приняли Стратегический план в области сохранения и устойчивого использования биоразнообразия на 2011-2020 годы, включая его 20 Айтинских целевых задач, в целях решения проблемы утраты биоразнообразия, обеспечения устойчивого использования природных ресурсов и справедливого распределения выгод.

Отчет «Охраняемая планета 2018» содержит обновленную информацию о прогрессе в достижении Айтинской целвой задачи 11 в глобальном масштабе. В каждой главе отчета рассматривается конкретный элемент целевой задачи 11. Выводы, содержащиеся в докладе, основаны на данных, хранящихся во Всемирной базе данных по охраняемым природным территориям (ВБДОПТ), по состоянию на июль 2018 года. Опубликованный отчет «Охраняемая планета» впервые дополняется онлайн-версией, регулярно обновляемой всеми наиболее актуальными данными, которые можно изучить по следующему адресу: www.livereport.protectedplanet.net.

Со времени принятия Стратегического плана был достигнут значительный прогресс в достижении элементов Айтинской целевой задачи 11, особенно в плане совокупной площади наземных и морских охраняемых природных территорий. Однако для достижения других элементов данной целевой задачи необходимы значительные усилия.

К ключевым выводам из этого отчета относятся следующие:

- Достигнут значительный прогресс в расширении сопокупной площади как наземных, так и морских охраняемых природных территорий (глава 2), причем расширение охвата мосрких экосистем охраняемыми территориями демонстрирует более высокие тепмы роста. Благодаря согласованным усилиям правительств по выполнению национальных обязательств, к 2020 году могут быть достигнуты целевые задачи в области наземного и морского покрытия охраняемыми природными территориями.
- Существующая охрана территорий, имеющих важное значение для биоразнообразия и экосистемных услуг, через системы охраняемых природных территорий (глава 3) недостаточна; однако значительный прогресс был достигнут в охране Ключевых Районов Биоразнообразия в прибрежных районах.
- Системы охраняемых территорий в настоящее время охватывают более широкий спектр экосистем (глава 4) с особыми улучшениями в прибрежных морских районах. Однако охрана океанов и пресноводных экорегионов отстает.
- Охраняемые природные территории, которые эффективно управляются (глава 5), в целом приводят к улучшению результатов для биоразнообразия. Однако только для 20% совокупной площади охраняемых природных территорий, включенных в ВБДОПТ, оценка эффективности управления согласно данным Всемирной базы данных об эффективности управления охраняемыми районами.
- Справедливое управление охраняемыми природными территориями (глава 6) является ключевым аспектом Айтинской Целевой задачи 11. Однако ввиду сушествования нескольких методик и методологическая основа для оценки равноправия охраняемых природных территорий, на практике, оценки проводятся редко.
- Сообщение между охраняемыми природными территориями (глава 7) являются ключом к поддержанию жизнеспособности популяций и экосистем. Разработаны показатели для измерения связности на глобальном уровне и показано, что около половины глобальной сети охраняемых природных территорий связано между собой.
- Для принятия на КС-14 КБР было рекомендовано определение «Другихе эффективныхе природоохранныхе меры на порайонной территориальной основе» (OECM) (глава 8) и руководящие принципы их идентификации; однако требуются глобальные исходные показатели по существующим OECM.
- Интеграция охраняемых и сохраняемых прилегающие территории и акватории (глава 9) требует разумного пространственного планирования, которое учитывало бы биоразнообразие, внося при этом вклад в гармоничное секторальное развитие.
- В будующей перспективе (глава 10) правительства и другие заинтересованные стороны в скором времени рассмотрят варианты глобального фреймворк-плана биоразнообразия после 2020 года. Усилия по сохранению на территориальной основе имеют решающее значение для сохранения биоразнообразия и устойчивого развития. Серия отчетов «Охраняемая планета» будет продолжать предоставлять своевременную информацию для облегчения процесса разработки нового фреймворк-плана.

执行摘要

2010年，生物多样性公约各缔约方通过了2011-2020生物多样性战略计划。这份计划囊括了20项爱知生物多样性目标，旨在解决生物多样性丧失的问题，确保自然资源的可持续利用和惠益的公平分享。

2018年保护地球报告更新了目前爱知生物多样性目标11在全球范围内的进展情况。报告的每一章都详细综述了目标11的具体要素。报告依据世界保护区数据库（WDPA）于2018年7月发布的数据。这是我们首次尝试利用在线版本对报告的纸制版本发布进行支撑，并对在线版本的数据进行定期更新。在线版本获取地址：www.livereport.protectedplanet.net.

自战略计划生效以来，爱知目标11相关方面进展突出，尤其在陆地和海洋保护区覆盖方面进展显著。然而，该目标的其他方面的达成仍然需要显著的努力。

该报告的要点罗列：

- 陆地和海洋保护区覆盖面积稳步扩展（第二章），海洋保护区覆盖面积增速大于陆地。随着各国政府一致努力实施本国的承诺，海洋及陆地保护区面积均可能于2020年前达成目标。
- 虽然各类保护区（第三章）对生物多样性和生态系统服务重点区域缺乏足够的保护，但是对海岸沿线地带的关键生物多样性区域（KBA）保护工作已经取得了长足的进展。
- 保护区系统现已覆盖更广泛的生态系统（第四章），海洋方面的保护进展尤其显著。然而，在境外海域以及淡水生态区保护方面尚有欠缺。
- 有效管理的保护区（第五章）普遍带来良好的生物多样性保护效果。但是，依据世界保护地管理有效性评估数据库（GDPAME），世界保护区数据库（WDPA）中录入的全球保护区只有20%进行过管理有效性的评估。
- 保护区的公平治理和管理（第六章）是爱知目标11的关键要素。尽管现阶段对理解保护区公平性已经有了一些方法和框架指导，在评估落实方面尚显不足。
- 保护区的连通性（第七章）对于保持种群数量以及维持生态系统至关重要。全球尺度的保护区连通性评估标准已经建立，并揭示全球半数的保护区目前已经连通。
- “其他有效的地区保护措施”（OECMs）（第八章）的定义以及其识别的指导纲领已经被推荐纳入 CBD COP 14备选决议列表中。然而，全球现有的OECM基准仍待确认。
- 将保护区纳入更广泛的陆地和海洋景观（第九章）要求过硬的空间规划能力，在考虑生物多样性的同时兼顾其他方面的协同发展。
- 着眼未来（第十章），各国政府和其他利益相关方即将审评2020年后生物多样性保护框架的方案。基于空间规划的保护对于生物多样性和可持续发展的意义深远。保护地球系列报告将继续提供及时信息，并为新框架的制定提供支持。

Chapter 1. Introduction to Protected Planet Report 2018

Protected and conserved areas have long been a successful management tool to conserve biodiversity, and without them the global loss of biodiversity would be even greater. They are recognised across multiple international policy processes including the 2030 Agenda for Sustainable Development, the Convention on Biological Diversity (CBD) and the Ramsar Convention.

IUCN defines a protected area as '*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*'. As described in the IUCN Guidelines (Dudley, 2008), protected areas belong to several different management categories and governance types. This report considers protected areas under all types of management and governance.

Aichi Biodiversity Target 11 of the Strategic Plan for Biodiversity 2010-2020 calls for Parties to the CBD to achieve the following: '*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***'.

Under the CBD, the Conference of the Parties (COP) invites IUCN and partners to report progress, develop technical guidance and build capacity towards achieving Aichi Target 11 (CBD Secretariat, 2016). Protected Planet Reports are biennial landmark publications that assess the state of protected areas around the world. The Report Series started in 2012, when Parties to the CBD encouraged UNEP-WCMC and IUCN '*to continue to report on progress towards achieving Aichi Biodiversity Target 11 and related targets through the Protected Planet Report*' (CBD COP Decision XI/24). These reports use the data contained in the World Database on Protected Areas (WDPA) (Box 1) and other relevant information sources to evaluate progress towards global commitments related to protected areas, such as the UN Sustainable Development Goals (Box 2).

A mid-term assessment of progress towards the implementation of the Strategic Plan for Biodiversity was presented in the fourth edition of the Global Biodiversity Outlook (CBD Secretariat, 2014). More recently, an update on the status of Aichi Target 11 was presented at the twenty-second meeting of the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) to the CBD (CBD Secretariat, 2018a) and highlighted progress made in achieving the different elements of the target.

In this edition of the Protected Planet Report we review and update progress made at the global level towards achieving Aichi Target 11, with each chapter looking at each specific element of the Target. Our findings are based on data held in the WDPA as of July 2018. For the first time, this written report is complemented by an online version which provides a summary of the text, interactive graphs and maps presenting data updated monthly, as well as numerous links to relevant resources. We invite you to explore the report with all the latest data at the following address: www.livereport.protectedplanet.net.

Box 1. The Protected Planet Initiative

Protected Planet® is a joint initiative of UN Environment and IUCN, managed by UNEP-WCMC and IUCN, working with governments, communities and collaborating partners. It aims to be the most authoritative global platform providing the world's decision-makers and the community of practice with the best possible global information, knowledge and tools for the planning and management of protected and conservation areas. It comprises four components, as shown in the figure below.

Protected Planet® started as the online interface of the WDPA. It is the most up to date and complete global source of information on protected areas, and is updated monthly with submissions from governments, non-governmental organisations, landowners and communities.

Through an online platform, Protected Planet users can visualise terrestrial and marine protected areas, access related statistics and download data from the WDPA. It allows a wide variety of users to use protected area data for information-based decision-making, policy development, and conservation planning. Businesses across a range of sectors including mining, oil and gas, and finance also use WDPA data to identify and mitigate biodiversity risks, and highlight any opportunities of proposed projects. Conservation planners can use the information to predict the outcomes of various proposals and focus on initiatives and areas that are most likely to result in positive impacts.

Protected Planet also provides the basis for monitoring and reporting to international agreements and processes, and can be used in combination with other data sources such as the World Database on Key Biodiversity Areas. For example, it is used to report progress towards the Strategic Plan for Biodiversity, the UN Sustainable Development Goals (SDGs) (see Box 2), and towards some of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) core indicators.

Finally, the Protected Planet Initiative presents information and innovative analyses under different themes related to protected areas. For instance, it contains some information on protected area management effectiveness, through a link to the Global Database on Protected Areas Management Effectiveness (GD-PAME). It includes all the assessments of the vulnerability to climate change of protected areas in West Africa. Information can be found on sites that are committed to the implementation of the IUCN Green List of Protected and Conserved Areas Standard, and various other national and regional statistics and information on terrestrial and marine protected areas. Once Parties to the CBD have adopted a definition of 'Other Effective area-based Conservation Measures' (OECMs), data on these sites will be reported in the WDPA and included in Protected Planet. UNEP-WCMC also maintains data on territories and areas conserved by indigenous peoples and local communities in the ICCA Registry.

Box 2. Contribution of protected areas to achieving the UN Sustainable Development Goals

The primary role of protected and conserved areas is biodiversity conservation. However, protected areas also contribute towards human wellbeing and sustainable development. The 2030 Agenda for Sustainable Development explicitly recognises that social and economic development can only be achieved through the sustainable management of natural resources. Biodiversity considerations are included in over half of the Sustainable Development Goals (SDGs) and targets. Although the strongest direct links between protected areas and the SDGs are with Goal 14 (Life below water) and 15 (Life on land), they also have relevance to other goals and targets, especially Goals 3 (Good health and well-being), 6 (Clean water and sanitation), 11 (Sustainable cities and communities), 5 (Gender equality) and 13 (Climate action) (see for instance Dudley et al., 2017).

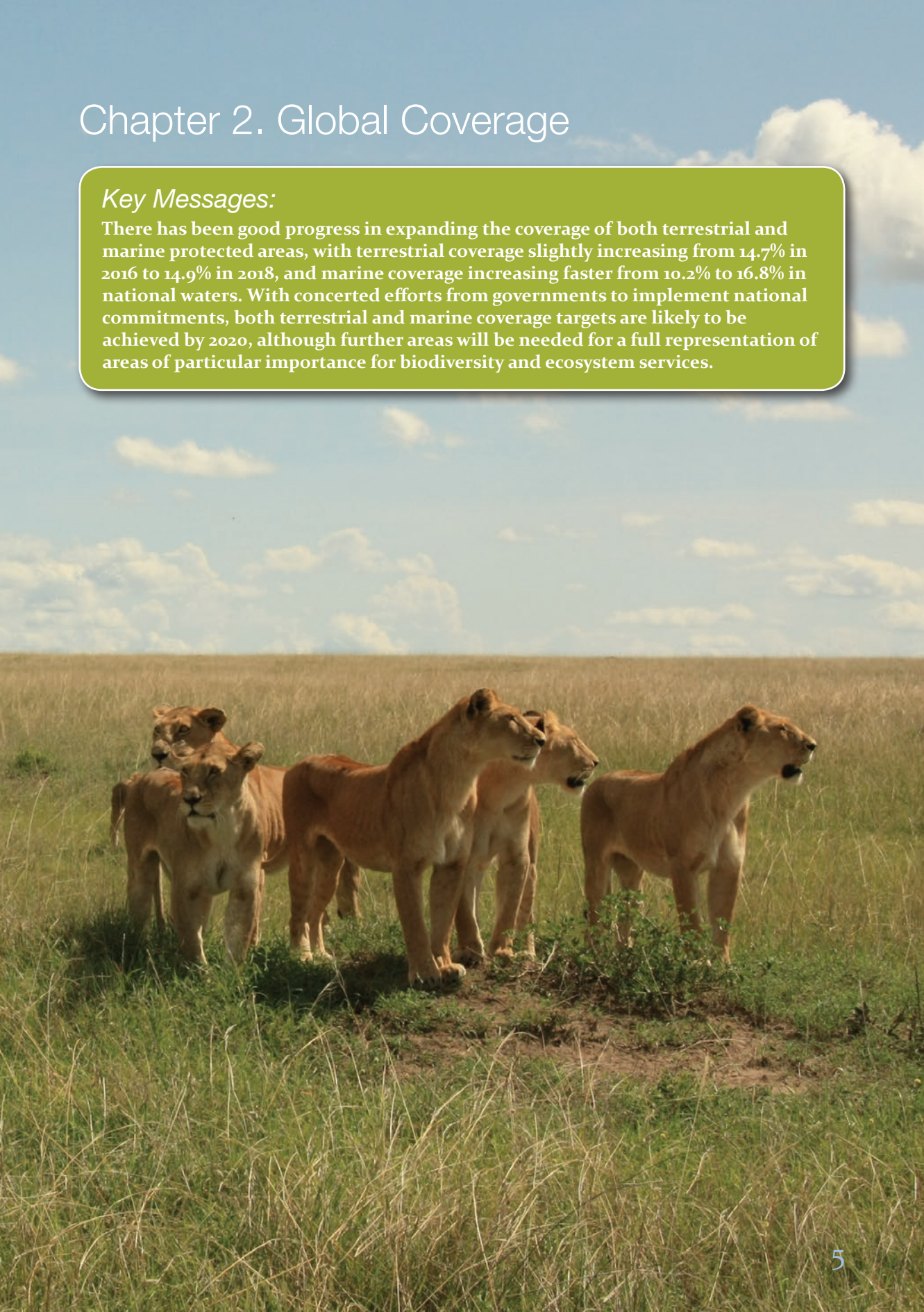
As illustrated in the Protected Planet Report 2016 (UNEP-WCMC & IUCN, 2016), the benefits provided by protected areas are critical to address environmental and societal challenges including poverty reduction, food and water security, and disaster risk reduction. For example, protected areas contribute to storing and sequestering carbon to mitigate climate change, and also offer opportunities to address human health and wellbeing issues.

The 17 Sustainable Development Goals of the 2030 Agenda for Sustainable Development.
The online version of this report provides an interactive table with more detail on the contribution of protected areas to each SDG.

Chapter 2. Global Coverage

Key Messages:

There has been good progress in expanding the coverage of both terrestrial and marine protected areas, with terrestrial coverage slightly increasing from 14.7% in 2016 to 14.9% in 2018, and marine coverage increasing faster from 10.2% to 16.8% in national waters. With concerted efforts from governments to implement national commitments, both terrestrial and marine coverage targets are likely to be achieved by 2020, although further areas will be needed for a full representation of areas of particular importance for biodiversity and ecosystem services.



As of July 2018, there were 238,563 designated[1] protected areas recorded in the WDPA (Figure 1). Most areas are on land, and collectively protect just over 20 million km², equivalent to 14.9% of the earth's land surface. Marine protected areas, despite being fewer in number, cover over 6 million km² more of the earth, representing 7.3% of the world's oceans. However, marine areas under national jurisdiction (Exclusive Economic Zones or EEZ, 0-200 nautical miles (nm)) have significantly more protection (16.8%) than Areas Beyond National Jurisdiction (ABNJ) (>200nm from the coast), with only 1.2% of protection (Figure 2).

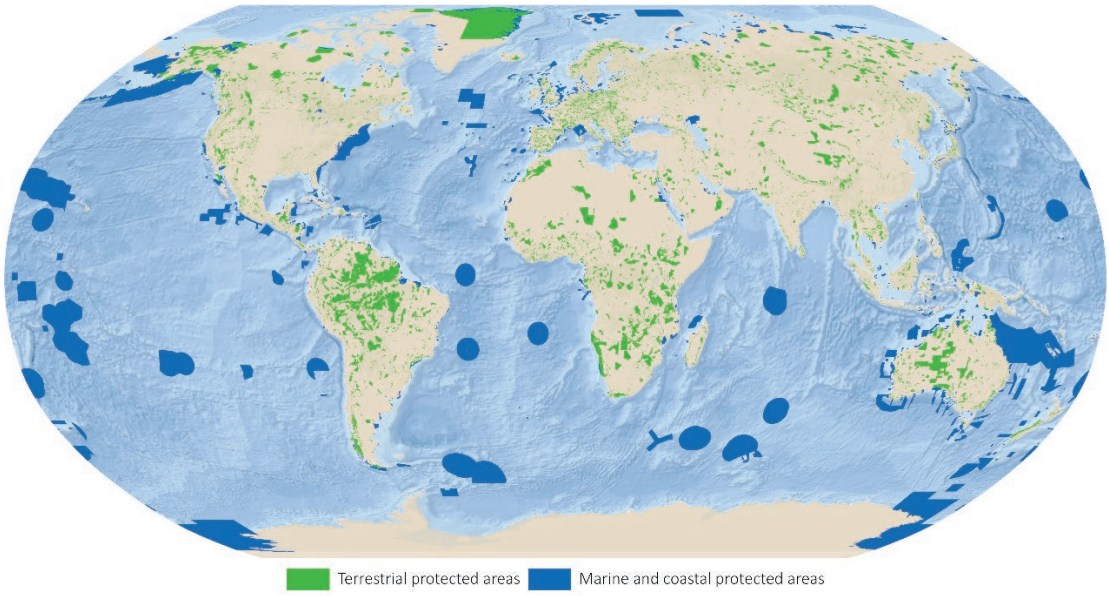


***Figure 1**. Spatial distribution of the world's protected areas. Source: UNEP-WCMC and IUCN, 2018a.*[2]

Protected areas are found in all countries, but some countries and regions (e.g. Africa, South America, Australia, Greenland and Russia) contain some very large reserves, whereas other regions (e.g. Europe) tend to have a higher number of small protected areas (Figure 1).

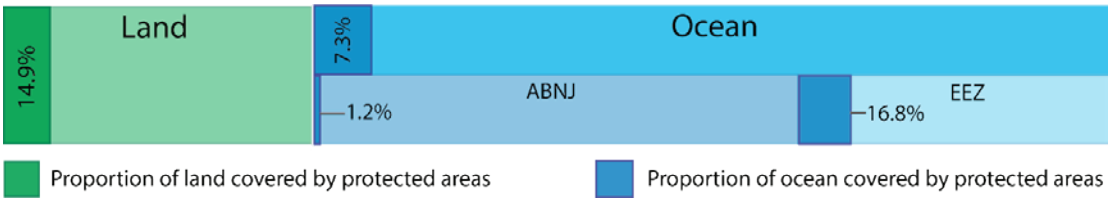


***Figure 2:** Proportional coverage of protected areas in the land and ocean (including in EEZ versus ABNJ). Source: UNEP-WCMC and IUCN, 2018a.*

[1] Through legal or other effective means.
[2] Data on EEZ come from http://marineregions.org/ (Brooks et al., 2016).

The number and extent of protected areas is continually changing as areas expand, new areas are added, and some areas are degazetted (see for instance Lewis et al., 2018). Indeed, some governments not only designate new areas but sometimes also scale back or eliminate protection for some previously protected areas. This process is called Protected Area Downgrading, Downsizing and Degazettement (or PADDD) (Mascia and Pailler, 2011), and can threaten biodiversity, ecosystems and the services they provide. An analysis of the temporal changes in protected area coverage shows that on average coverage of marine protected areas continues to increase rapidly since 2016, whilst the growth in terrestrial protection has largely tapered off (Figure 3; CBD Secretariat, 2018a; Gannon et al., 2017). Box 3 discusses in more detail the recent growth in marine protected areas. Whereas at the global level there has been little change in the terrestrial coverage since 2016 (Figure 3), several nations, including Australia, Mexico, Colombia and Brazil, have expanded their protected area networks substantially (CBD Secretariat, 2018a).

Information on future commitments collected from almost 130 countries and territories by the CBD Secretariat suggests that with concerted efforts from governments, coverage of protected areas will increase significantly over the next two years, resulting in an additional 4.5 million km² of protected area on land and almost 16 million km² more in the ocean (Figure 3).

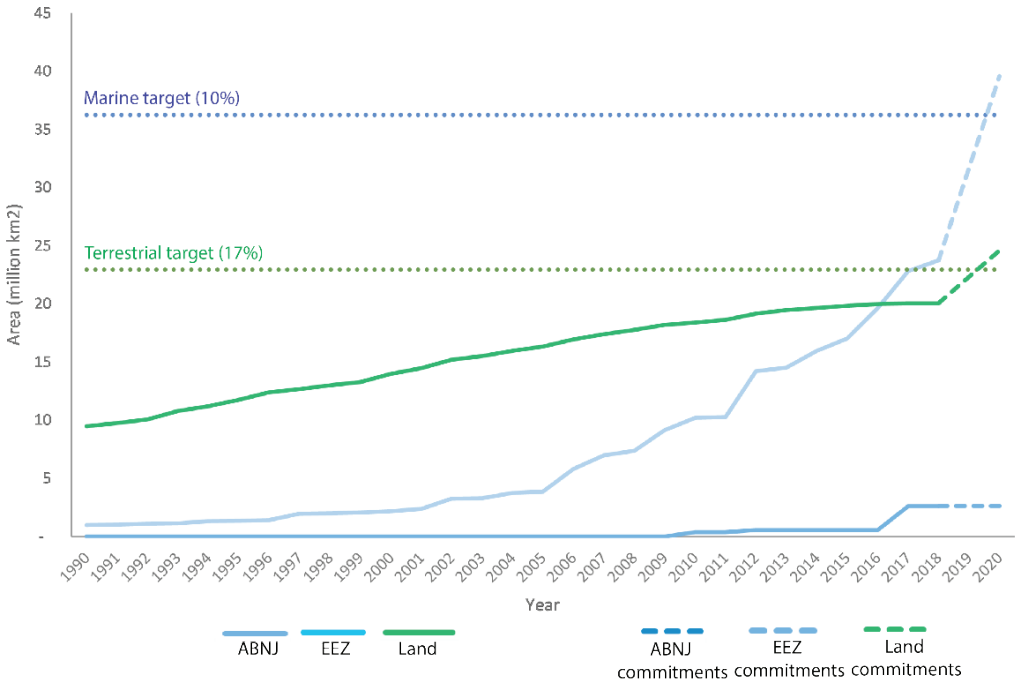


Figure 3: *Growth in protected area coverage on land and in the ocean (EEZ and ABNJ) between 1990 and 2018 and projected growth to 2020 according to commitments from countries and territories. Source: Unpublished data from the CBD Secretariat, UNEP-WCMC and IUCN (2018a).*

The observed increase in protected area coverage reflects not only on new designations, but also indicates improved reporting by countries and territories regarding existing areas, such as in Guinea (CBD Secretariat, 2018a). Protected areas are diverse in terms of ownership, governance, objectives and management. Most protected areas declared by governments are reported to the WDPA, and protected areas owned and managed by local communities and private organisations are increasingly being recognised and reported.

Regional bodies, such as the EU, and international conventions, such as the UNESCO World Heritage Convention[3] and the Ramsar Convention, also designate sites of regional and international importance. Sometimes, overlaps occur between these categories and even within them (Deguignet et al., 2017), for example, there are approximately 183,000 km² designated both as Ramsar sites (wetlands of international importance) and UNESCO World Heritage Sites. Despite such overlapping designations, areas are only counted once in the analysis of coverage statistics.

The extent of protected area coverage is highly variable between countries in both land (Figure 4) and ocean (Figure 5), as well as at the national scale.

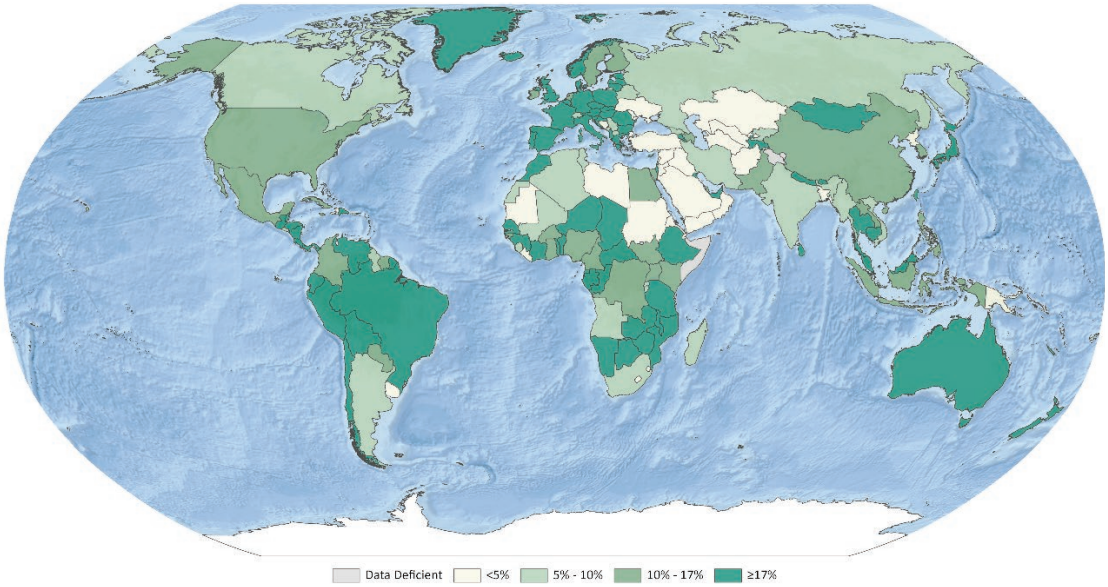


Figure 4. *Extent of terrestrial coverage of protected areas between countries and territories. Source: UNEP-WCMC and IUCN, 2018a.*[4]

[3] In July 2018, about 6.3% of the global protected area network was made of World Heritage Site, covering approximately 0.59% of the land and sea.

[4] The United States of America and the Holy See are not Parties to the CBD.

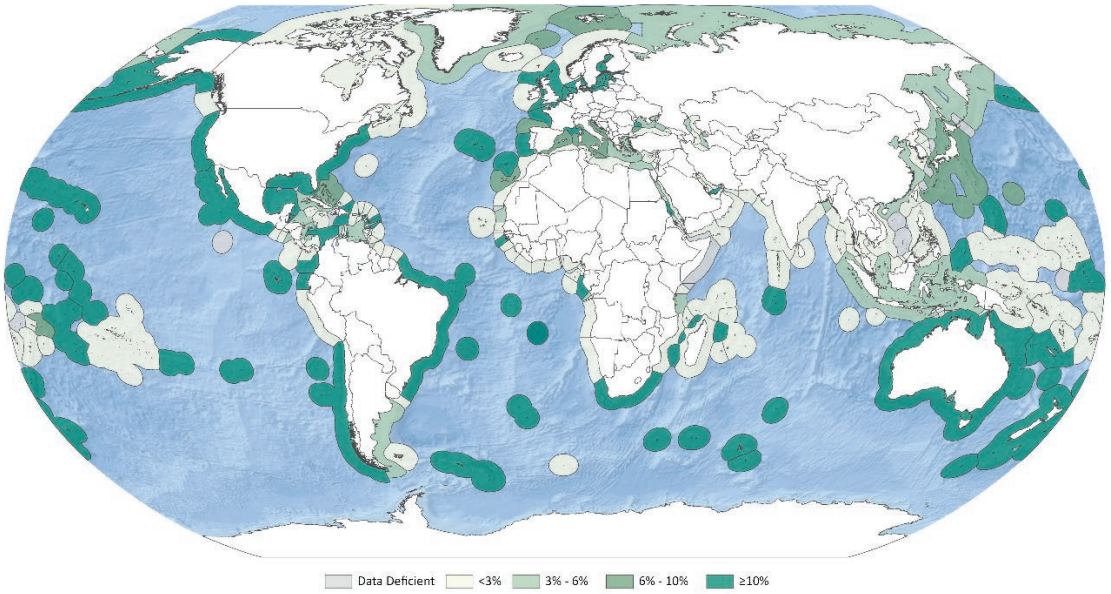


Figure 5. *Extent of ocean coverage of protected areas within Exclusive Economic Zones (EEZ). Source: UNEP-WCMC and IUCN, 2018a.*[5]

Box 3. Trends and trajectories of marine protection

There has been a remarkable growth in marine protected areas (MPAs) in recent years. As highlighted at the UN Oceans Conference (2018), MPAs have increased more than 15-fold since 1993 when the CBD entered into force. A larger area of the ocean is now protected than on land, though proportionally the much larger ocean realm has lower percentage coverage than does the terrestrial realm. Since April 2016, more than 8 million km^2 of new marine protected areas have been added to the WDPA, strengthening protection of ecological regions and Key Biodiversity Areas in the marine realm (4th International Marine Protected Areas Congress, 2017) (see also Chapter 4).

This growth in marine protection is largely the result of several countries declaring very large reserves, e.g. Brazil, Mexico, and some protecting their entire EEZ, e.g. the designation of the approximately 2 million km^2 Marae Moana Marine Park in the Cook Islands in 2017. The four largest marine protected areas were created or expanded in the last two years (CBD Secretariat, 2018a). With continuous efforts from governments to implement existing commitments, the global coverage targets of Aichi Target 11 are likely to be met in the oceans, with the target already met for areas within EEZ. Despite this trend, an additional 10 million km^2 is still required by 2020 to meet the ocean Target.

However, in recent years, there has been a considerable discussion on what should be 'counted' as a MPA (e.g. Sala et al., 2018; Horta e Costa et al., 2016; Dudley et al., 2017). Much of the confusion of what constitutes an MPA comes from a misunderstanding or under-appreciation of the core principles of MPAs, coupled with the conflation of the legal establishment of an area equating to the site having effective management and governance (IUCN WCPA, 2018a). Moreover, there have been questions raised about the strength and efficacy of some protected areas, which allow industrial fishing including destructive bottom trawling (Sala et al. 2018). IUCN has published Global Conservation Standards for MPAs (Day et al., 2012), including a clear definition and guiding principles, and over the last year, an international and multidisciplinary group has been working to develop a simple framework to describe different types of MPAs according to their level of protection and their stage of establishment, which would allow greater clarity and transparency in discussing and tracking MPAs, and reporting progress towards global goals.

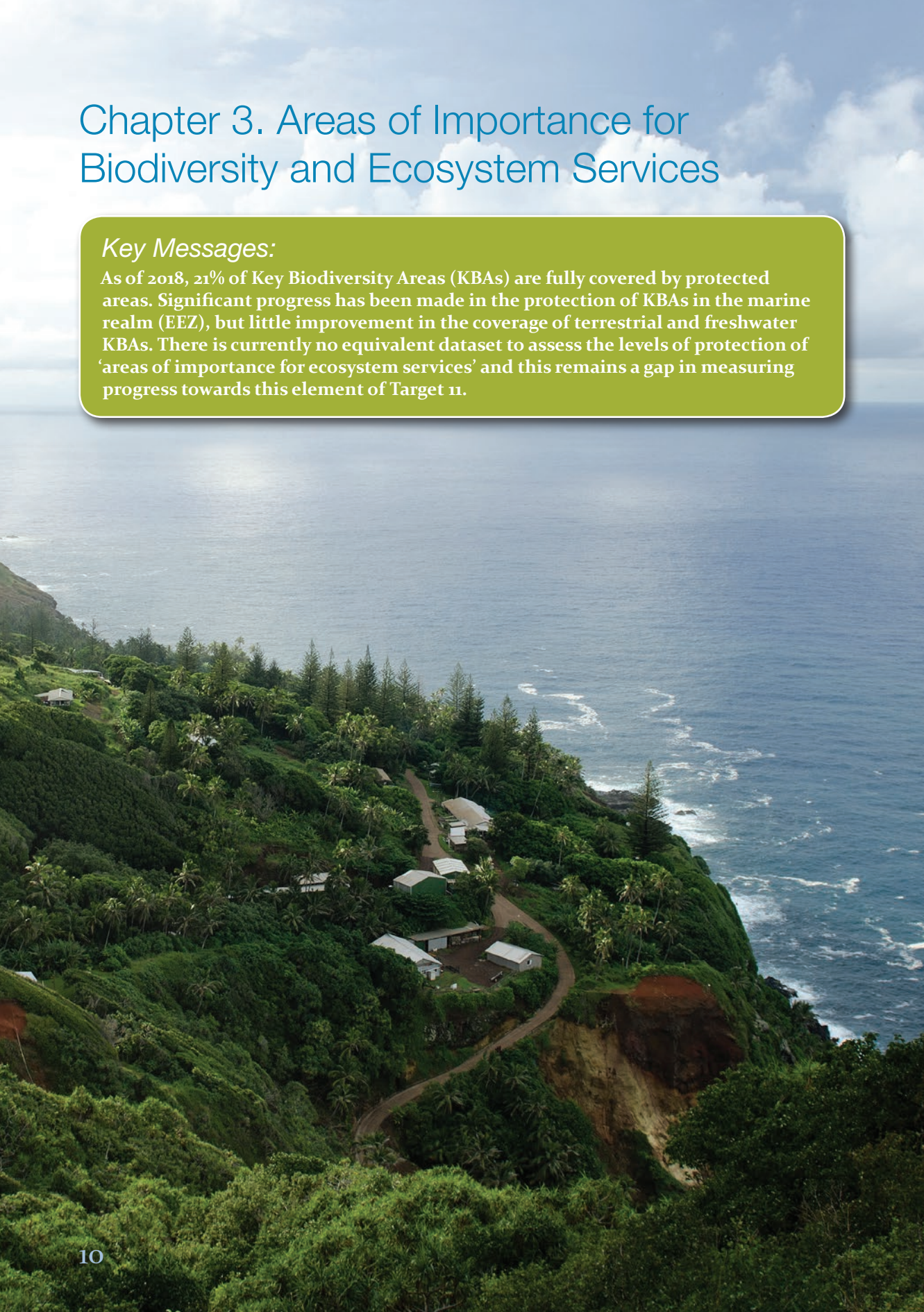
While the general outlook for increasing marine protected area coverage is positive, to truly meet the target will require, amongst other things, the increased protection of ABNJ, of which only 1.2% is currently protected. Designating MPAs in ABNJ is significantly more difficult than in territorial waters, although the designation of the approximately 2 million km^2 Ross Sea Marine Protected Area shows how this can be done.

[5] Ibid.

Chapter 3. Areas of Importance for Biodiversity and Ecosystem Services

Key Messages:

As of 2018, 21% of Key Biodiversity Areas (KBAs) are fully covered by protected areas. Significant progress has been made in the protection of KBAs in the marine realm (EEZ), but little improvement in the coverage of terrestrial and freshwater KBAs. There is currently no equivalent dataset to assess the levels of protection of 'areas of importance for ecosystem services' and this remains a gap in measuring progress towards this element of Target 11.



HOW WELL DO PROTECTED AREAS INCLUDE 'AREAS OF PARTICULAR IMPORTANCE FOR BIODIVERSITY'?

Key Biodiversity Areas (KBAs) are the most comprehensive dataset on areas of global importance for biodiversity (with around 15,000 sites identified to date). Protected area coverage of KBAs is used by the CBD as one of the measures to track progress towards Target 11, and is also a recognized indicator for the UN Sustainable Development Goals. KBAs are defined as '*sites contributing significantly to the global persistence of biodiversity*' (IUCN, 2016) and are found in terrestrial, freshwater and ocean ecosystems.[6] In January 2018, 21% of KBAs were estimated to be completely covered by protected areas, while 35% had no protection through systems of protected areas (Figure 6). There is therefore an important need to ensure that KBAs achieve better protection by protected areas, or other effective area-based conservation measures.

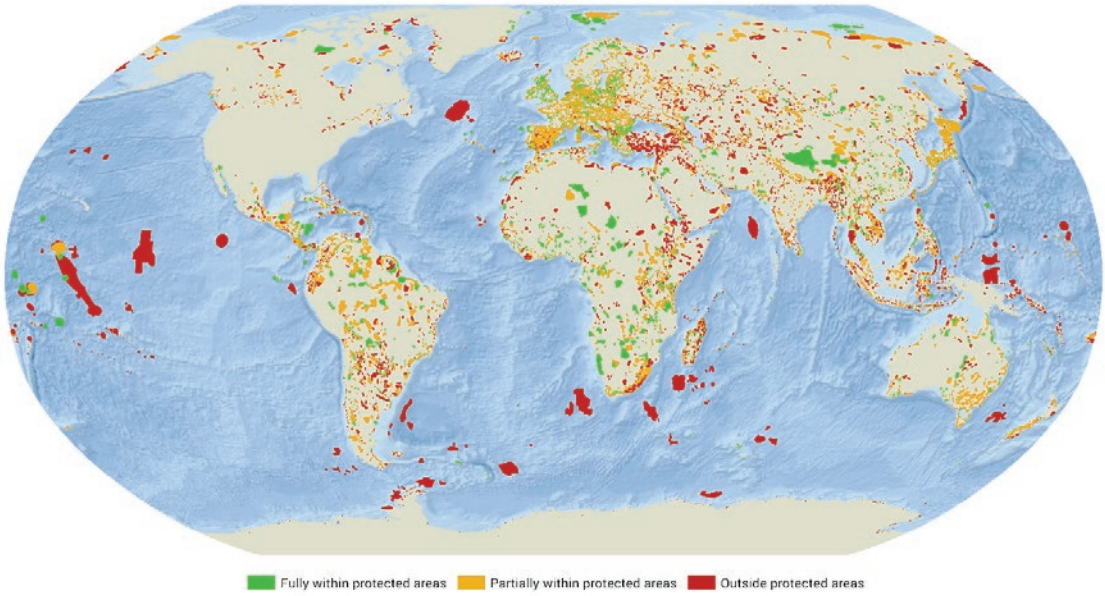


Figure 6. *Map of Key Biodiversity Areas fully within (green), partially within (orange) or outside (red) protected areas on land and in the ocean (within EEZ). Source: BirdLife International, IUCN and UNEP-WCMC (2018).*[7]

[6] All Key biodiversity Areas identified to date are available in the World Database on Key biodiversity Areas (WDKBA) (Birdlife International, 2018).

[7] Based on spatial overlap between polygons for Key Biodiversity Areas from the World Database of key Biodiversity Areas (www.keybiodiversityareas.org), compiled by BirdLife International and IUCN (January 2018), and polygons for protected areas from the January 2018 version of the WDPA (www.protectedplanet.net).

On average, 47% of each terrestrial, 44% of each freshwater, and 15.9% of each marine Key Biodiversity Area (within EEZ) are within protected areas. While protected area coverage of KBAs in marine areas had tripled between 2010 and 2018 (5% to 15.9%), there was slower progress in the inclusion of terrestrial and freshwater KBAs into the global protected area network since 2000 (Terrestrial: 43.3 % to 46.6%; Freshwater: 41.1 % to 43.5%) (Figure 7).

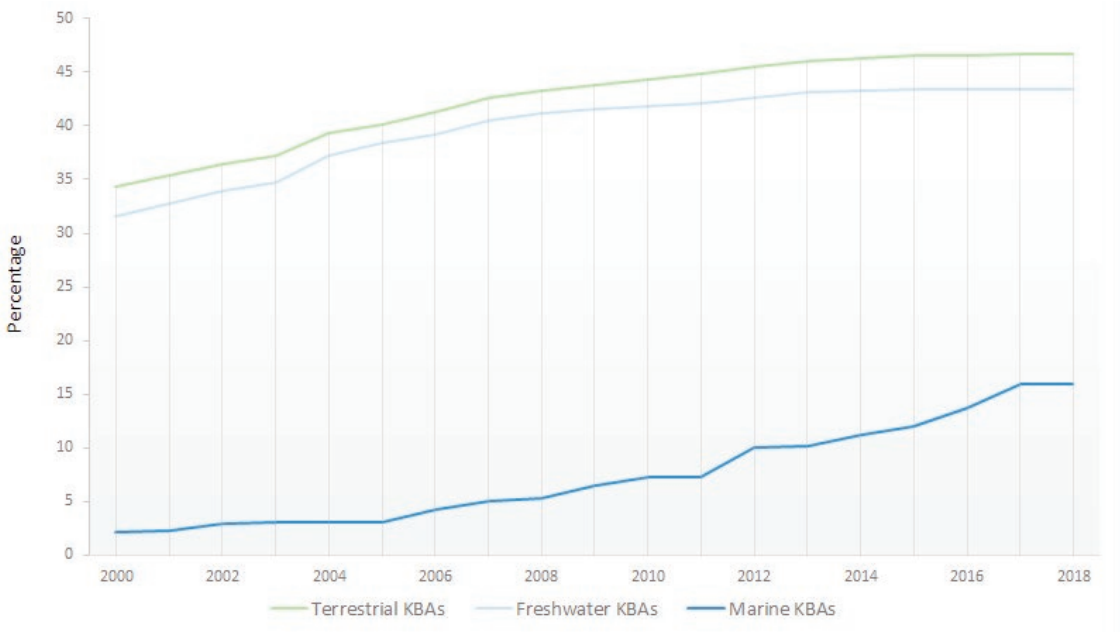


Figure 7. *Mean percentage coverage of each KBA by protected area since 2000. Terrestrial KBAs: green, Freshwater KBAs: light blue, Marine KBAs (within EEZ): dark blue. Source: BirdLife International, IUCN and UNEP-WCMC (2018).*

THREATENED AND RARE SPECIES IN KBAS, HOW MANY ARE WITHIN PROTECTED AREAS?

Here we present a case study looking at the important species found in 5,011 KBAs in 29 Biodiversity Hotspots, as identified by the Critical Ecosystem Partnership Fund (CEPF), and to what extent these sites are within protected areas.

21% (5,510) of globally threatened species on The IUCN Red List of Threatened Species™ (IUCN 2018) are found within KBAs in Biodiversity Hotpots. Of these sites, 13% are currently fully within protected areas, while another 31% are covered only in part by protected areas. Efforts are therefore still needed to protect the remaining KBAs appropriately.

Another approach that has been developed prioritises species based on their 'Evolutionary Distinctiveness' (the unique contribution of a species to total evolutionary history) and 'Global Endangerment' (extinction risk derived from The IUCN Red List of Threatened Species™) (Isaac et al., 2007). A total of 1,261 or 43% of all EDGE species are found in 2,803 KBAs in 21 Biodiversity Hotspots, with 14% of these sites with EDGE species being fully within protected areas and 35% partially within protected areas.

HOW WELL DO PROTECTED AREAS COVER 'AREAS OF PARTICULAR IMPORTANCE FOR ECOSYSTEM SERVICES'?

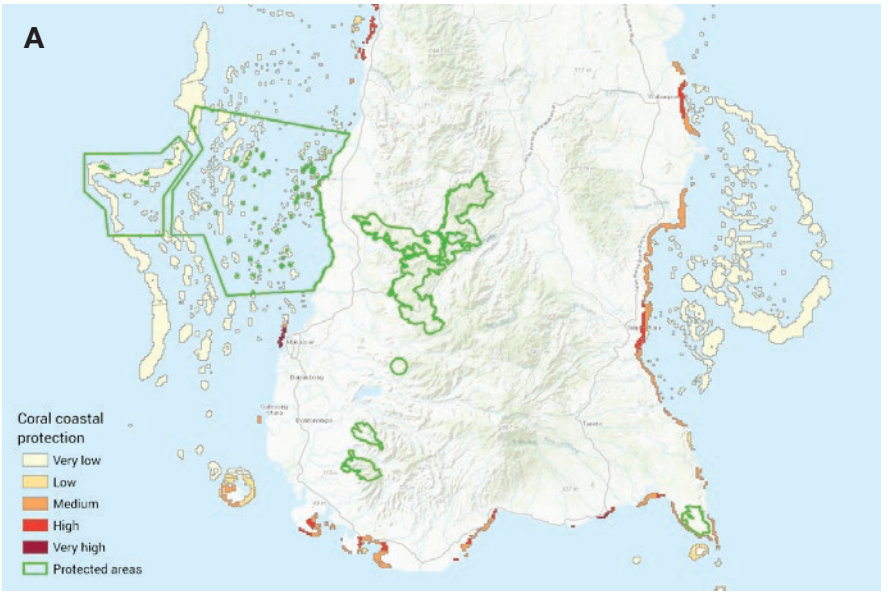
The benefits that people derive from nature encompass a range of important ecosystem services and values. Important ecosystem services include water and food production, carbon sequestration and storage (key to mitigate impacts of climate change), pollination, hazard protection (e.g. against floods and landslides), as well as many services of cultural, recreation and educational value.

There is currently no global dataset or analysis that provides a measure of how well protected areas cover 'areas of particular importance for ecosystem services',[8] which constitutes a clear gap to be addressed to fully report progress in the achievement of Aichi Target 11 (Gannon et al., 2017). However, many studies have focused on assessing the extent to which particular ecosystem services are provided by protected areas (Box 4). In box 5, we present a case study in Paraguay on the contribution of protected areas to climate change mitigation.

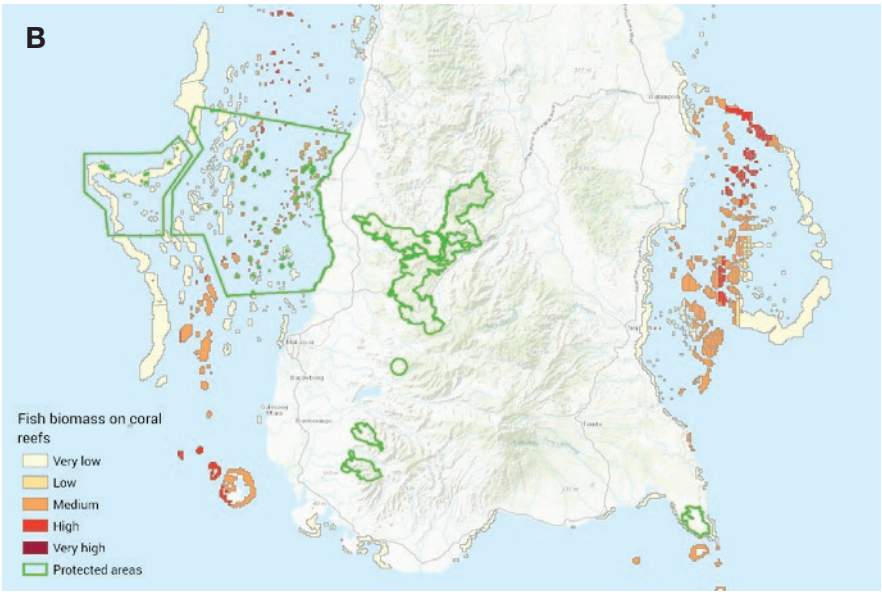
Box 4. Assessing the contribution of protected areas to ecosystem services

Beyond protecting biodiversity, protected areas can contribute to maintaining or enhancing the supply of ecosystem services. At the global level, forest protected areas have been shown to provide a substantial proportion of the drinking water for one-third of the world's 100 largest cities (Dudley and Stolton, 2003) and more than 1.1 billion people depend on forest protected areas for a significant part of their livelihoods (Mulongoy and Gidda, 2008). Regarding carbon, terrestrial protected areas account for approximately 20% of the carbon sequestered by all land ecosystems (Melillo et al., 2016).

Marine protected areas are also of vital importance for the delivery of ecosystem services, including for tourism, fisheries and coastal protection. As highlighted at the UN Oceans Conference (2018), marine protected areas contribute substantially to social, economic and environmental benefits including through food security, livelihood security, poverty alleviation, disaster-risk reduction and climate change mitigation and adaptation. Specifically, corals and mangroves provide a number of valuable services to local communities across the world but not all of them are within protected areas. For instance, globally, 28.6% of coral reef fisheries biomass, 20.4% of coral reef coastal protection (US$), and 44.3% of coral reef tourism value (US$) lies within protected areas[9] (see Figure below for an example). Similarly, protected areas contribute 31% of mangrove fishery catch and 35.7% of mangrove above-ground biomass. These areas that supply important ecosystem services should therefore be prioritized for protection.



Box 4. Assessing the contribution of protected areas to ecosystem services (continued)



Example of marine ecosystem services coral coastal protection (A) and coral fisheries (B) and their location in relation to protected areas in south Sulawesi, Indonesia.
Source: UNEP-WCMC and IUCN (2018a)[10]

[8] National Geographic Pristine Seas is leading a multi-institutional effort to identify and prioritize the ocean areas that, once fully protected from extractive activities, will deliver the greatest return on investment for biodiversity conservation, carbon sequestration, and food provisioning now and in the future. The project will publish its results in 2019.

[9] These values were derived from calculating the proportion of five ecosystem services within protected areas globally. The analyses included the WDPA July 2018 and datasets on the global value of coral reef tourism (Spalding et al., 2017), global mangrove forest biomass (Hutchison et al., 2014), global mangrove fisheries (Hutchison et al., 2015). For a description and methods of the global coral fisheries and global coral coastal protection datasets see https://oceanwealth.org/ecosystem-services and select 'Fisheries' and 'Coastal Protection' options..

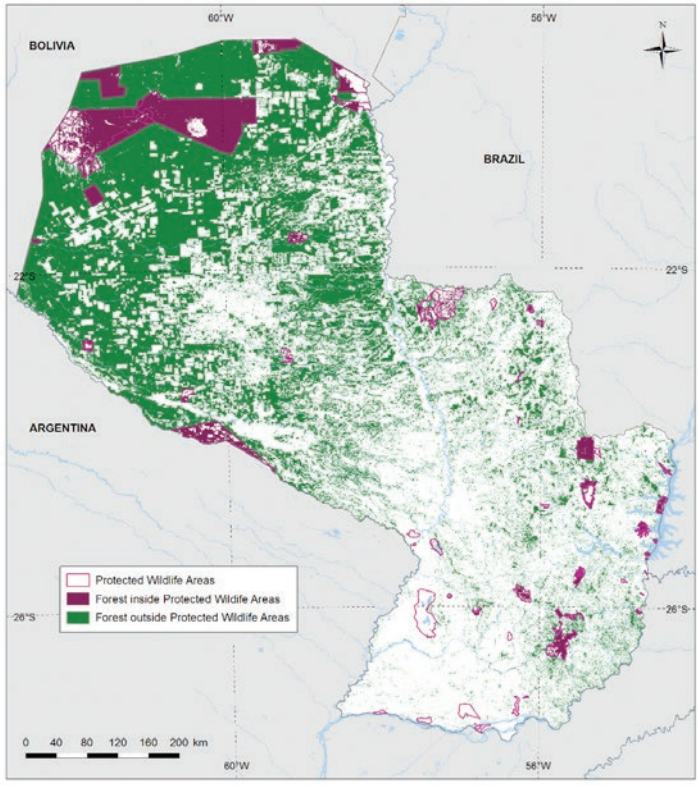
[10] Ibid.

Box 5. Protected areas' contribution to climate change mitigation, with a case study in Paraguay

Reducing emissions from deforestation and forest degradation (REDD+) is a mechanism developed by Parties to the United Nations Framework Convention on Climate Change (UNFCCC). It aims to create a financial value for the carbon stored in forests by offering incentives for developing countries to reduce emissions from deforestation and forest degradation. The main goal of REDD+ is to combat climate change, but it can also contribute to securing additional environmental and social benefits, helping countries to meet a number of national and international objectives and commitments, including national development plans, goals related to the Paris Agreement, SDGs, the Bonn Challenge, and the Aichi Biodiversity Targets.

Designing REDD+ actions that aim to expand protected areas, strengthen their management, or conserve areas of importance for biodiversity and other ecosystem services, may help to protect forests and the services they provide from land-use change pressures. At the same time, this can provide buffer zones in areas of high biodiversity value, or help maintain links with other forests, also enhancing the connectivity of protected areas. Restoration of degraded forest in such areas may also provide significant benefits for biodiversity conservation and ecosystem services, such as erosion control and water regulation, as well as for climate change mitigation.

In a number of countries, REDD+ planning has taken into account protected areas in order to inform decisions on where to locate REDD+ actions to achieve multiple benefits. For example, in Paraguay, the National System of Protected Wildlife Areas includes ten different categories of Protected Wildlife Areas, which currently cover 14.3% of the country's land area (UNEP-WCMC and IUCN, 2018a). The map below shows that approximately 12% of Paraguay's forest cover is located in protected areas. As Paraguay prepares to implement REDD+, information on the location of protected areas has helped to determine where REDD+ actions are possible (as certain uses of the forest are prohibited in protected areas), and also where REDD+ actions that prevent deforestation or restore forest outside of protected areas may help to conserve biodiversity, supporting or enhancing the effectiveness of existing conservation areas by buffering them from land-use change.

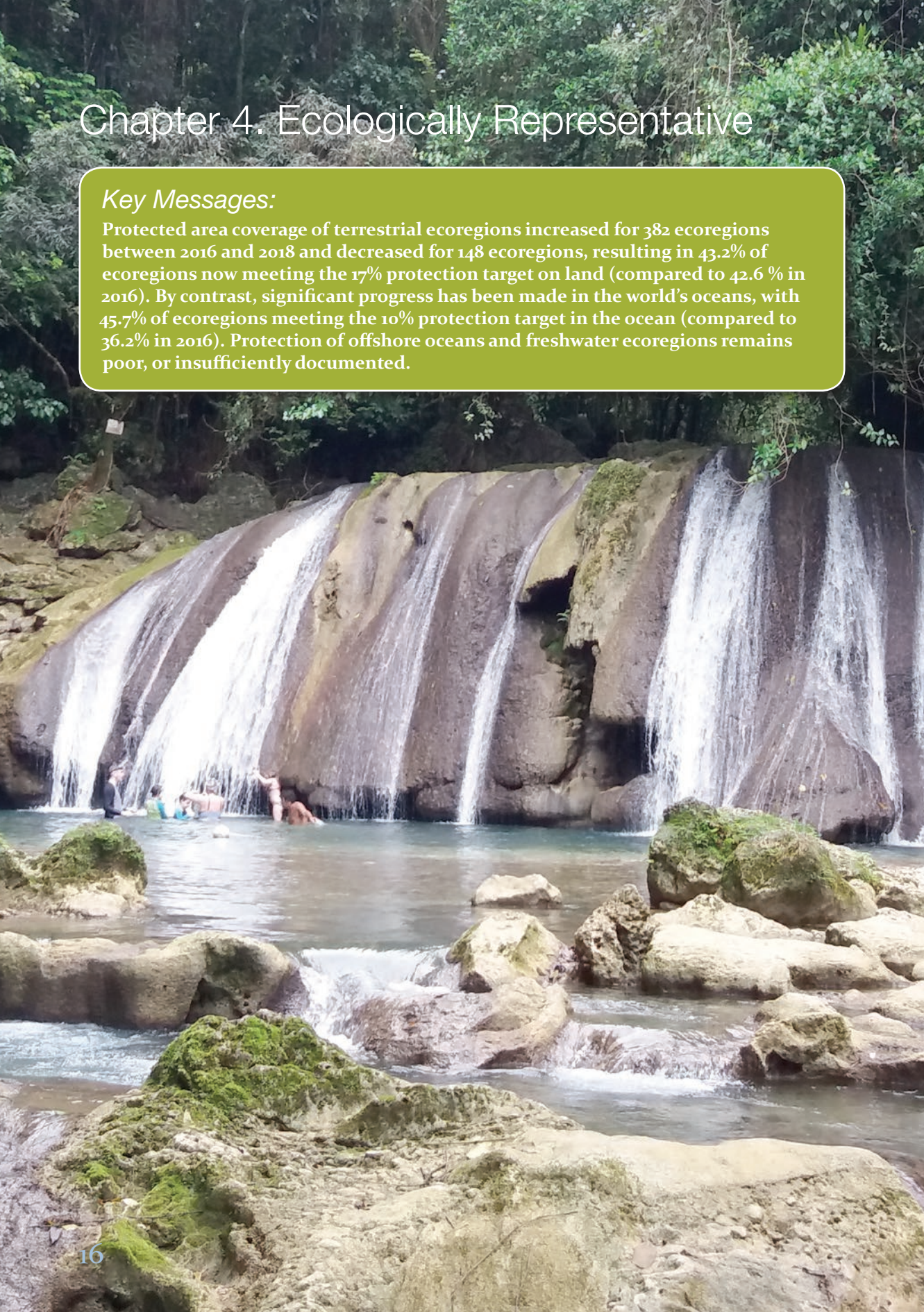


Protected areas and forest cover in Paraguay. Source: Walcott et al. (2015)

Chapter 4. Ecologically Representative

Key Messages:

Protected area coverage of terrestrial ecoregions increased for 382 ecoregions between 2016 and 2018 and decreased for 148 ecoregions, resulting in 43.2% of ecoregions now meeting the 17% protection target on land (compared to 42.6 % in 2016). By contrast, significant progress has been made in the world's oceans, with 45.7% of ecoregions meeting the 10% protection target in the ocean (compared to 36.2% in 2016). Protection of offshore oceans and freshwater ecoregions remains poor, or insufficiently documented.



Aichi Target 11 requires that systems of protected areas and other effective area-based conservation measures are ecologically representative. An ecologically representative protected area network would ideally include all relevant biogeographic entities, affording some protection to the full variety of life on Earth. The most commonly used classification for biogeographical regions are ecoregions, which are units of land, ocean or freshwater that share the same biological characteristics (Olson et al., 2001; Spalding et al., 2007 and 2012). Ecological representation of protected areas can also be assessed by considering representation of species (Rodrigues et al., 2004; Butchart et al. 2014).

As recently highlighted by the CBD Secretariat (2018a), the protection of terrestrial ecoregions has improved slightly between 2016 and 2018, while there has been a substantial increase in protection of marine ecoregions and pelagic provinces. Figure 8 shows the current protected area coverage of the world's terrestrial and marine ecoregions of the world, while Figure 9 presents the change in protected area coverage for terrestrial and marine ecoregions, as well as pelagic provinces, between April 2016 and July 2018.

TERRESTRIAL BIOGEOGRAPHICAL REGIONS

In July 2018, 43.2% of the 821 terrestrial ecoregions (excluding Antarctica, rock and ice) met the target of at least 17% of their area included within protected areas (Table 1 and Figure 8), but 5.6% of ecoregions still had less than 1% protected area coverage, or no protection at all (Table 2), including the South China Sea Islands, Louisiade Archipelago rain forest and Eastern Anatolian deciduous forests.

Compared to 2016, 382 terrestrial ecoregions have seen their coverage increase and 148 terrestrial ecoregions have seen their coverage decrease (Figure 9). This apparent fluctuation may be due to genuine degazettement of protected areas, but can also be partly a result of designation changes, as highlighted in the previous Protected Planet Report (UNEP-WCMC and IUCN, 2016). The level of protection to freshwater ecosystems at the global level remains low, with various estimates made by using different methodologies (Box 6).

Therefore, there still remain significant gaps in achieving 17% of protection for all terrestrial ecoregions. However, reaching this target might be difficult due to the small size of remaining intact habitats in some terrestrial ecoregions (Gannon et al., 2017; Dinerstein et al., 2017).

Table 1. *Percentages (numbers in parentheses) of terrestrial and marine biogeographical units meeting the coverage element of Aichi Target 11 in 2016 and 2018. Sources: Terrestrial ecoregions, realms and biomes from Olson et al. (2001). Marine ecoregions, realms and provinces from Spalding et al. (2007); pelagic provinces from Spalding et al. (2012).*

Biogeographical Unit	2016	2018
Ecoregions		
Terrestrial	42.6% (350)	43.2% (355)
Marine	36.2% (84)	45.7% (106)
Realms		
Terrestrial	14.3% (1)	42.9% (3)
Marine	50.0% (6)	66.7% (8)
Biomes		
Terrestrial	42.9% (6)	42.9% (6)
Provinces		
Marine	45.2% (28)	56.5% (35)
Pelagic	8.1% (3)	10.8% (4)

Table 2. *Percentages (numbers in parentheses) of terrestrial and marine ecoregions and provinces having less than 1% of protection in 2016 and 2018. Sources: Terrestrial ecoregions from Olson et al. (2001). Marine ecoregions and provinces from Spalding et al. (2007); pelagic provinces from Spalding et al. (2012).*

Ecoregions / Provinces	2016	2018
Ecoregions		
Terrestrial	6.3% (52)	5.6% (46)
Marine	22.0% (51)	17.2% (40)
Provinces		
Marine	6.5% (4)	3.2% (2)
Pelagic	45.9% (17)	24.3% (9)

MARINE BIOGEOGRAPHICAL REGIONS

Significant positive changes have taken place in the protection of marine ecoregions over the period 2016-2018, including in the high seas (pelagic provinces, see Table 1 and Figure 9). This mirrors the rapid expansion of the global marine protected areas network over the past two years, with the declaration of some very large MPAs (see Chapter 2).

In July 2018, 45.7% of the world's 232 nearshore marine ecoregions have at least 10% of their area protected (Figure 8), up from 36.2% in 2016. There has been a notable decrease in the number of marine ecoregions that have less than 1% protected area coverage, down from 22.0% to 17.2%, showing a positive trend (Table 2). There has also been an increase in protection of the high seas, the South Central Pacific Gyre pelagic province has increased its protected area estate from 3.6% to 10.5%, making it the fourth pelagic province (out of 37) to meet the 10% marine target. Yet, 24.3% of provinces still have less than 1% of their total area protected.

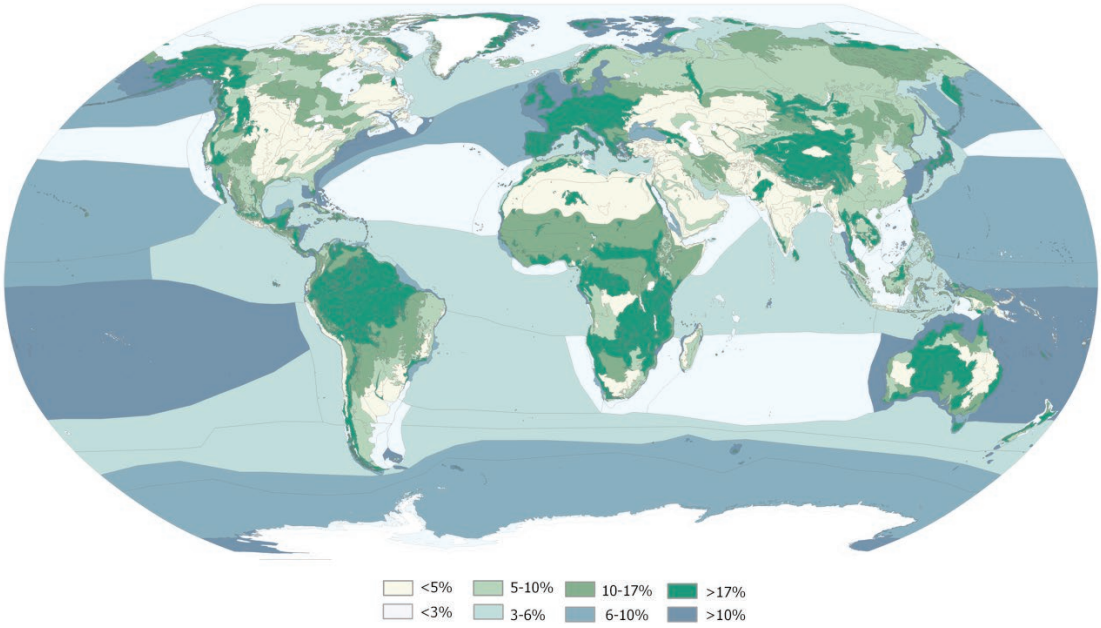


Figure 8. *Protected area coverage (in percentage) of the world's terrestrial (green gradient) and marine (blue gradient) ecoregions of the world. Source: UNEP-WCMC and IUCN, 2018a.*

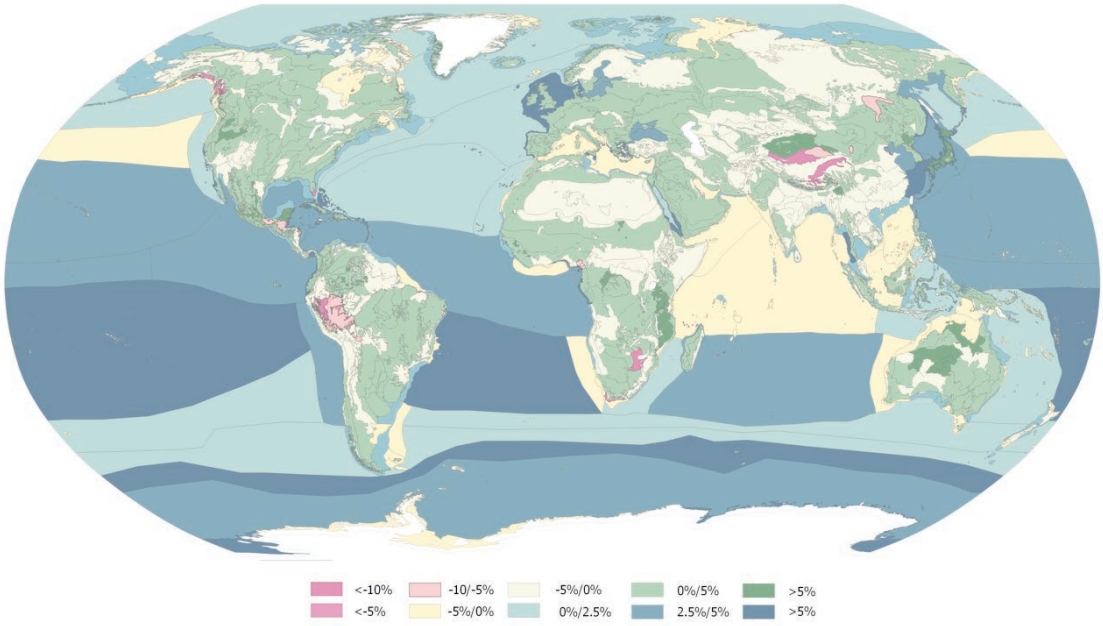


Figure 9. *Change in the protected area coverage of the world's terrestrial and marine ecoregions and pelagic provinces between April 2016 and 2018. Source: UNEP-WCMC and IUCN, 2018a.*

Box 6. Protected area coverage of freshwater ecosystems

Freshwater is of vital importance for the survival of all life on Earth. Freshwater ecosystems occupy less than 1% of the earth's surfaces, but could possibly contain as much as 12% of all known species (Garcia-Moreno et al., 2014). However, around 64-71% of global wetlands extent has been lost in the past century (Davidson, 2014), and freshwater species are among the most threatened on earth (Garcia-Moreno et al., 2014)

Protected area coverage of freshwater ecosystems globally is estimated to range between 11-21%, depending on which methodology and freshwater dataset are used. For example, an analysis of protected area coverage of rivers, lakes, and reservoirs included in the Global Lakes and Wetlands Database (GLWD; Lehner and Döll, 2004), showed that globally 20.7% of freshwater ecosystems were within protected areas (Juffe-Bignoli et al., 2014). However in 2017, another global analysis of protected areas with IUCN Category I–VI and Ramsar sites concluded that about 89% of these were unprotected. The table below shows published estimates of protected area coverage of inland waters from different sources.

Global protected area coverage estimate	Water-related ecosystem type	Dataset used	Source
12%	Inland water types; drainage layer categories	Global Land Cover (GLC) 2000	Millennium Ecosystem Assessment (2005)
21%	Inland water types; nine categories	Global Lakes and Wetlands Database	Juffe-Bignoli et al. (2014)
11%	Seasonal inland wetlands; excludes open inland water types such as rivers, lakes and reservoirs.	GIEMS-D15, a downscaled Global Inundation Extent dataset from Multi-Satellites (GIEMS)	Reis et al. (2017)
16%[11]	Rivers with an average flow of at least 0.1 cubic metre per sec	HydroSHEDS	Abell et al. (2017)

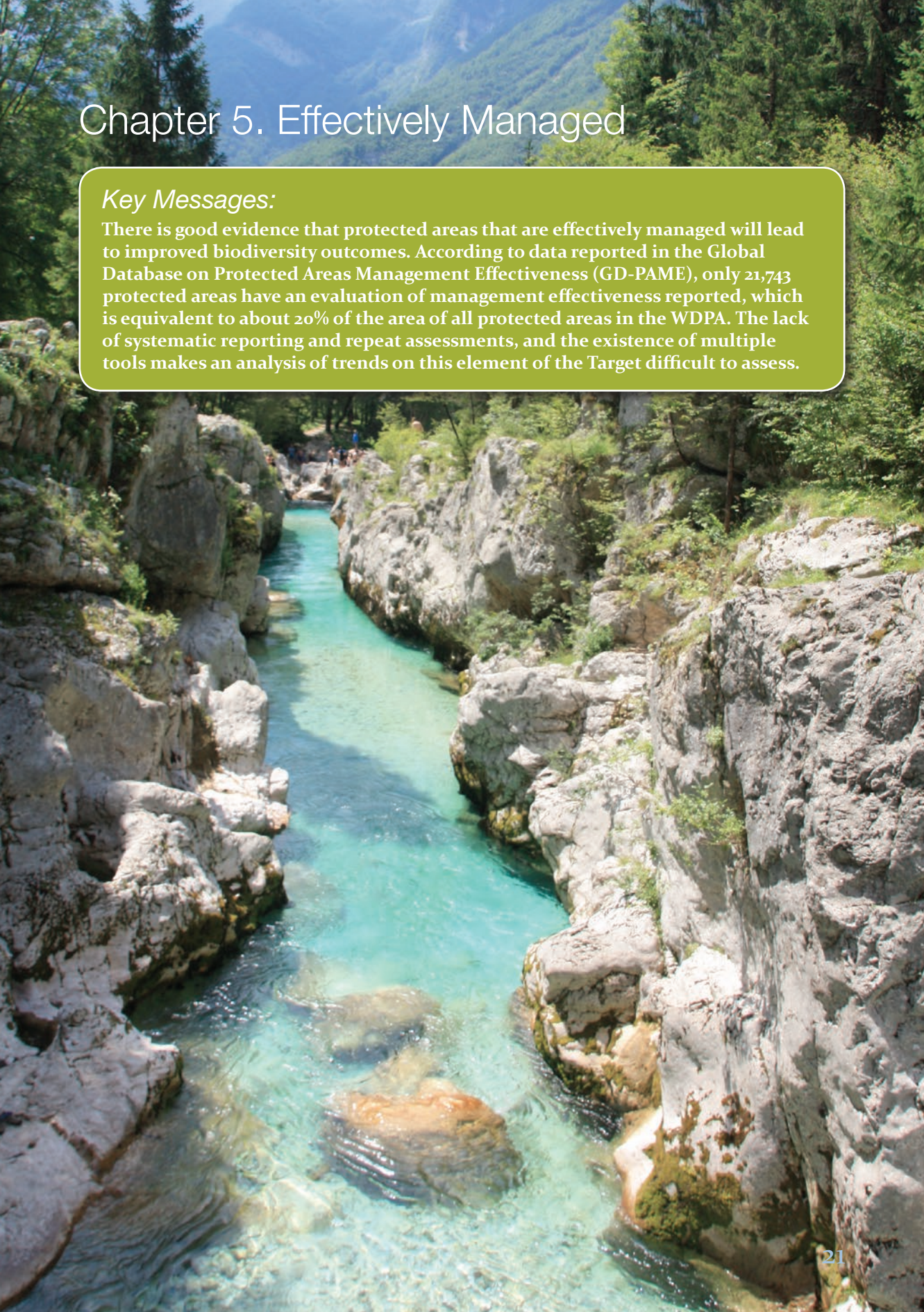
Global estimates of protected area coverage of inland water systems. Protected area extent metrics are based on the WDPA.

[11] When accounting for upstream protection, the average integrated protection value falls to 13.5% globally and <10% of rivers are protected in the world's largest basins.

Chapter 5. Effectively Managed

Key Messages:

There is good evidence that protected areas that are effectively managed will lead to improved biodiversity outcomes. According to data reported in the Global Database on Protected Areas Management Effectiveness (GD-PAME), only 21,743 protected areas have an evaluation of management effectiveness reported, which is equivalent to about 20% of the area of all protected areas in the WDPA. The lack of systematic reporting and repeat assessments, and the existence of multiple tools makes an analysis of trends on this element of the Target difficult to assess.



Aichi Target 11 states that protected areas should be '*effectively managed*', and many countries have instituted processes whereby management effectiveness is assessed. Efforts have been made to streamline reporting, but the lack of comprehensive and consistent data on this aspect has made the management effectiveness element surprisingly hard to assess (Coad et al., 2015).

HOW IS PROTECTED AREA MANAGEMENT EFFECTIVENESS MEASURED?

Over the past 10 years, management effectiveness data have been gathered from 169 countries globally, using 69 different methodologies, resulting in the Global Database on Protected Areas Management Effectiveness (GD-PAME). The database currently contains 28,668 records from 21,743 different protected areas (UNEP-WCMC and IUCN, 2018b). This corresponds to data for 9.1% of protected areas reported in the WDPA, representing 19.9% of protected area coverage. The majority of these evaluations are conducted in the field by park managers and other stakeholders.

The 2018 United Nations List of Protected Areas (UNEP-WCMC, 2018), presents for the first time not only updated lists of protected areas for every country and territory, but also associated information on management effectiveness, including a review of some of the most commonly used methodologies applied.

The highest coverage of protected areas with reported assessments is found in developing countries, particularly West Africa (Figure 10). Fewer management effectiveness assessments have been implemented in other countries, especially in Western European countries (UNEP-WCMC, 2018). To date, only 21% of countries meet the management effectiveness target (i.e. of having at least 60% of their protected area coverage assessed) on land and 16% of countries meet the target in the ocean, according to the data held in GD-PAME (Figure 11).

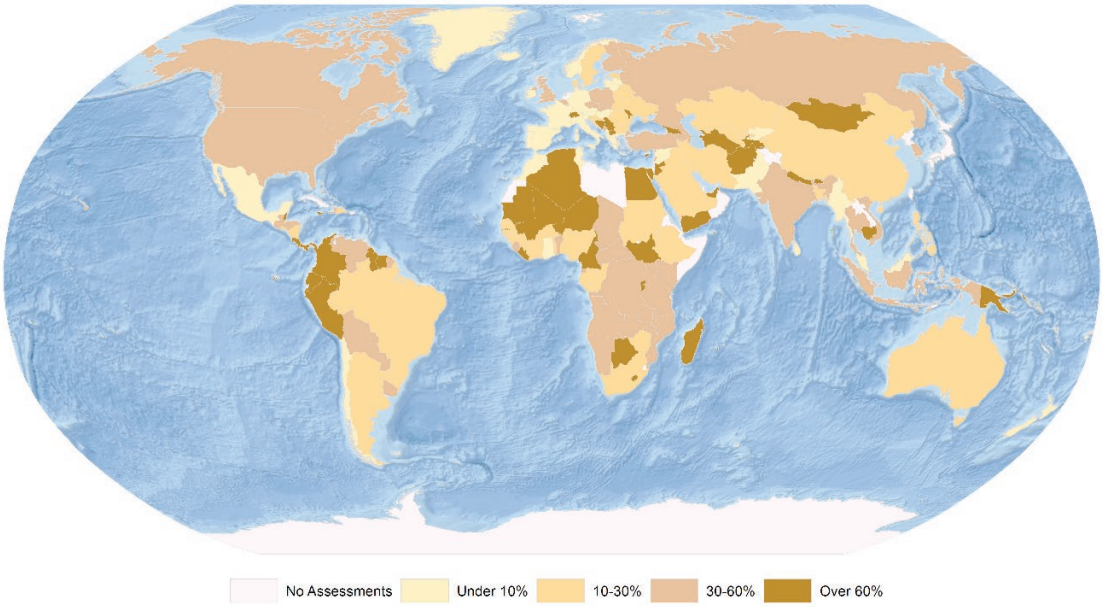


Figure 10. *Percentage of the total coverage in protected areas that has been assessed for management effectiveness per country using different PAME tools.*[12] *Source: UNEP-WCMC and IUCN (2018a and 2018b).*[13]

[12] CBD COP 10 Decision X/31 calls for Parties to 'expand and institutionalize management effectiveness assessments to work towards assessing 60 per cent of the total area of protected areas by 2015 using various national and regional tools, and report the results into the global database on management effectiveness'.

[13] The United States of America and the Holy See are not Parties to the CBD.

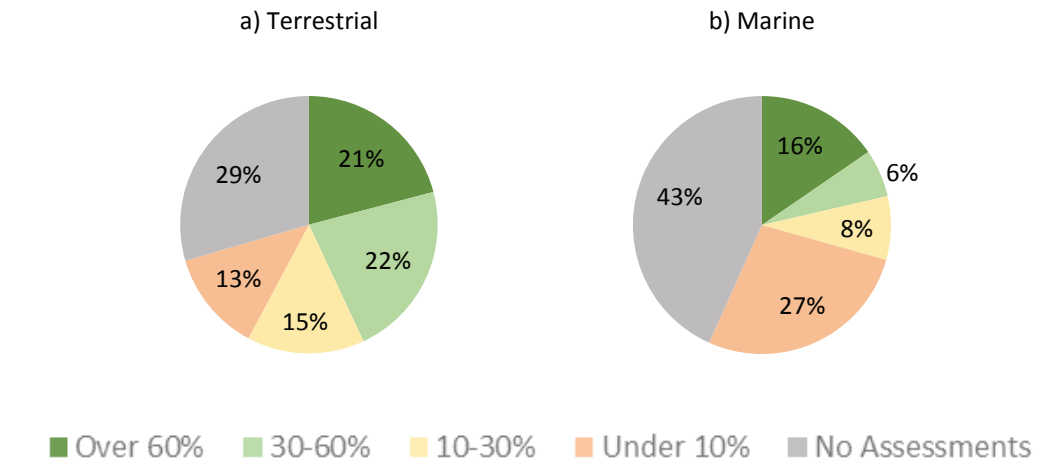


Figure 11. *Percentage of countries with varying levels of progress towards the 60% management effectiveness assessment target, a) for terrestrial areas, and b) for marine areas, as per information contained in the GD-PAME in July 2018.*

In terms of regional differences in coverage of protected areas assessed for management effectiveness, no regions meet the 60% assessment target. Only Africa and North America have more than 30% of the total area of their protected area network assessed (Figure 12).

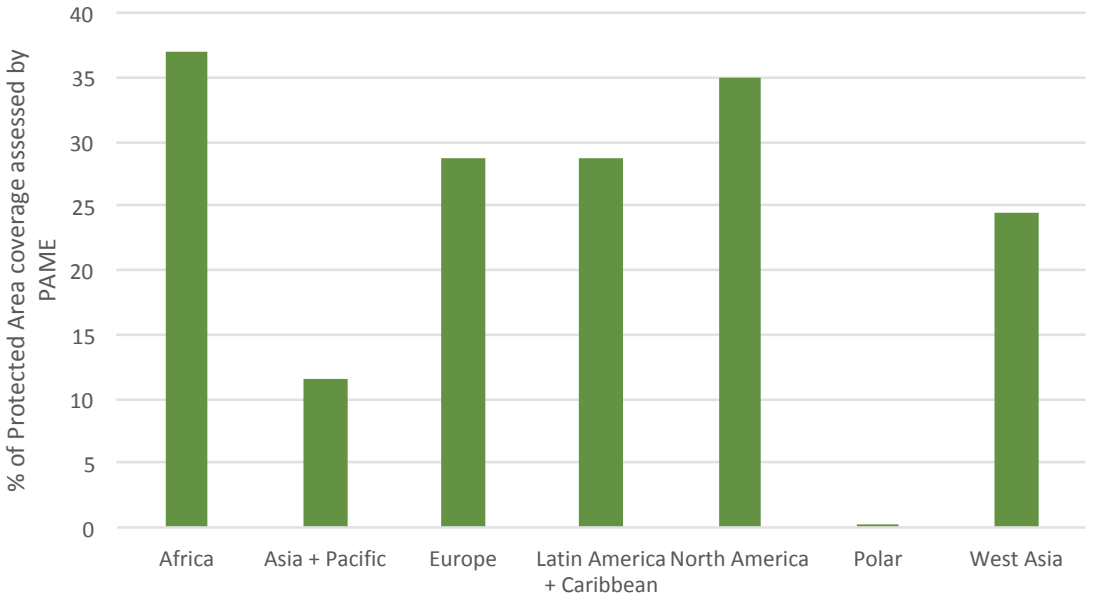


Figure 12. *Percentage coverage of all protected areas per region assessed for management effectiveness using different PAME tools. Source: UNEP-WCMC and IUCN, 2018b.*

WHAT METHODOLOGIES ARE MOST FREQUENTLY USED TO ASSESS EFFECTIVENESS?

In terms of the number of records regionally, the highest number is found in Europe, where many small protected areas are found, many of them having been repeatedly assessed (Figure 13) and hence driving up the numbers of reported assessments (UNEP-WCMC, 2018). This reflects the use of the Common Standards Monitoring (UK) and national inventory systems in the European region. The Management Effectiveness Tracking Tool (METT), which has been used in many projects funded by the Global Environment Facility (GEF), is the next most applied tool, with 3,688 records from 2,048 protected areas in GD-PAME. These widely used tools focus more on management inputs rather than on assessing the links between management effectiveness and conservation outcomes. The process for establishing the IUCN Green List of Protected and Conserved Areas (see Box 7) extends these methods to incorporate documentation of biodiversity outcomes, as well as management inputs. Box 8 describes the IUCN World Heritage Outlook, which tracks the conservation prospects of natural World Heritage sites.

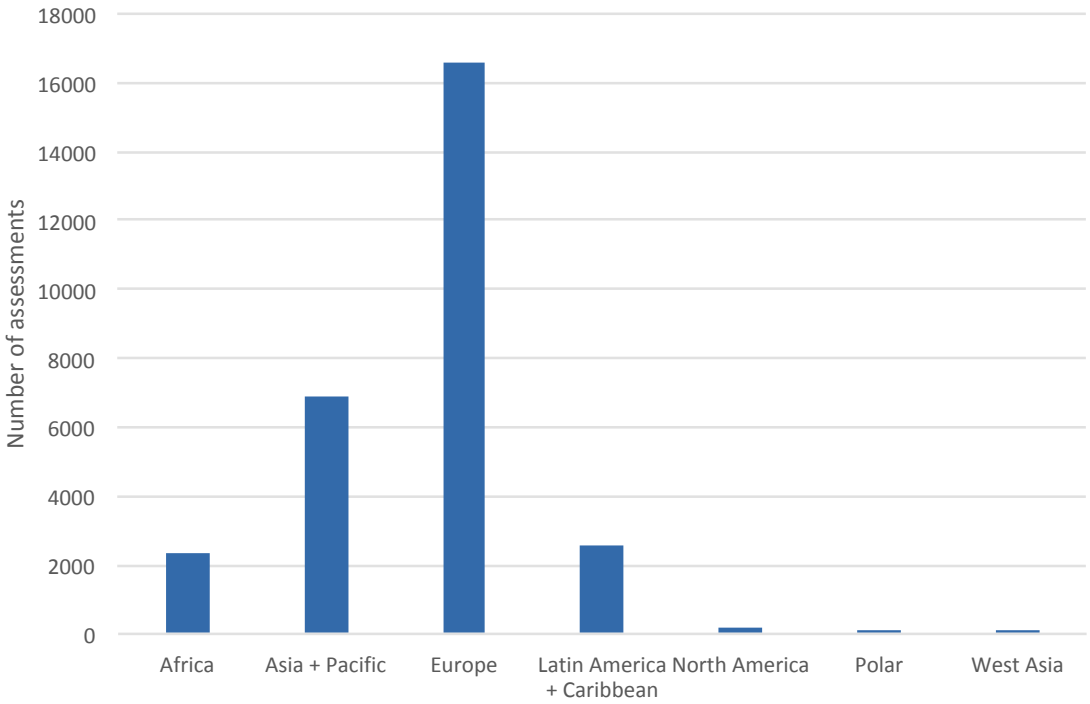
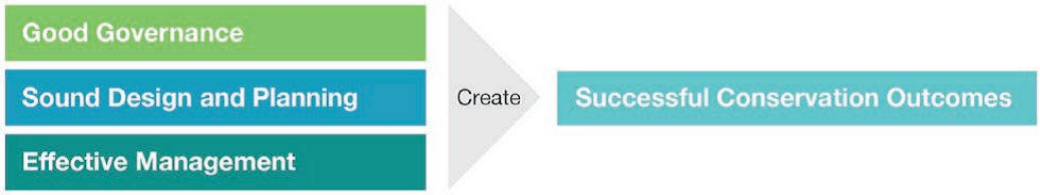


Figure 13. *Number of reported management effectiveness assessments per region, including repeat assessments of the same site. Source: UNEP-WCMC and IUCN, 2018b.*

Box 7. The IUCN Green List of Protected and Conserved Areas

The IUCN Green List of Protected and Conserved Areas (the 'IUCN Green List') is a global programme to recognise and increase the number of protected areas, and sites of other effective area-based conservation measures ('conserved areas'), that are equitably governed and effectively managed and deliver positive conservation outcomes. The IUCN Green List does not require any particular type of management effectiveness assessment tool, but the results of assessments are reviewed as set out below.

By joining the IUCN Green List programme, protected and conserved areas commit to implementing a global Standard, which is organised into four components:



In order for sites to receive IUCN Green List certification, they must implement all four components, which reflect elements of Aichi Target 11. Sites are independently evaluated for implementation of the Standard by measuring progress with the use of indicators and means of verification. At the end of the evaluation process, sites will either be awarded IUCN Green List status for a period of five years, or remain as candidates until performance improvements have been made.

IUCN Green List Sites

Protected Planet provides information about sites that have committed to work towards the IUCN Green List. In 2014, 25 sites were awarded provisional IUCN Green List status during the IUCN Green List pilot phase, and currently there are approximately a further 250 sites[14] being reviewed for their application of the IUCN Green List Standard.

[14] The IUCN Green List of Protected and Conserved Areas is being applied in many countries. Formal implementation is reported in 22 countries including: Algeria, Australia, Brazil, Colombia, Costa Rica, Côte d'Ivoire, Egypt, France, Guadeloupe, Jordan, Kenya, Lebanon, Malaysia, Mexico, Morocco, Nigeria, State of Palestine, Peru, Tunisia, United Arab Emirates, United States of America and Vietnam.

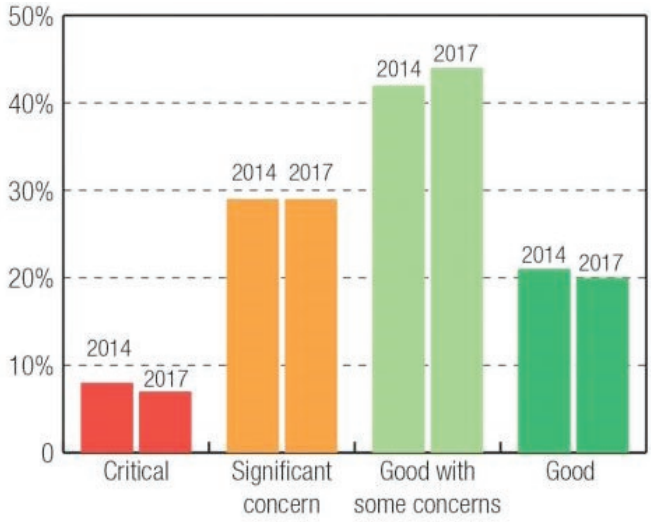
Box 8. IUCN World Heritage Outlook: Tracking conservation in the planet's most outstanding natural places

According to the *IUCN World Heritage Outlook 2* launched in November 2017, effectiveness of protection and management of natural World Heritage sites dropped in the preceding three years. On the other hand, many sites provide examples of good practice that can inspire success elsewhere.

The report, an update of the *IUCN World Heritage Outlook 2014*, tracks changes in the conservation prospects of the 241 natural World Heritage sites listed up to 2017. It examines threats, protection and management, and the state of the sites' World Heritage values.

Results show that, while threats are intensifying, more sites face concern with management. The percentage of sites where protection and management are assessed as overall "effective" or "highly effective" has declined from 54% in 2014 to 48% in 2017. In 12% of cases, effectiveness is assessed to be of "serious concern".

However, the IUCN World Heritage Outlook also provides many examples that nature conservation works where action is sustained. Overall, 64% of sites have a positive conservation outlook ("Good" or "Good with some concerns") and, at the site level, many assessments show areas of improved performance in 2017.



Evolution of World Heritage Outlook between 2014 and 2017

The IUCN World Heritage Outlook serves as an indicator of our ability to address global conservation challenges, replicate success and pinpoint where investment is most needed.

DOES EFFECTIVE PROTECTED AREA MANAGEMENT DELIVER CONSERVATION OUTCOMES?

There is good evidence, using a variety of methodological approaches, that protected areas on land reduce habitat loss compared with non-protected areas (Geldmann et al., 2013), and maintain species populations (Barnes et al., 2016; Gray et al., 2016). In the ocean, there is also a growing literature showing positive impacts of Marine Protected Areas on the diversity and abundance of fish (Gill et al., 2016; Edgar et al., 2017).

Recent large-scale studies have found positive correlations between aspects of protected area management (such as staffing and budgets) and species conservation outcomes (in terms of trends in species' populations and abundance) in marine (Gill et al., 2016; Edgar et al., 2017) and terrestrial (Geldmann et al., 2018) protected areas. There is now increasing evidence that protected areas are yielding positive social and economic change for people (e.g. Den Braber et al., 2018; see also Chapter 6), which shows a positive evolution compared to earlier evidence of negative impacts from displacement and disempowerment at some sites (e.g. Mascia et al., 2010). Furthermore, it has been shown that gender equality in management can help ensure that women's and men's traditional rights over resource use are not diminished with the development of projects and programs (Gonzales and Martin, 2007).

Chapter 6. Equitably Managed

Key Messages:

The equitable management of protected areas is a key aspect of Aichi Target 11. A framework for understanding equity in protected areas has been developed, and several methodologies have been proposed to enable the assessment of equitable management in all its dimensions. Despite these advances, assessments have been implemented in only a limited number of protected areas, and conclusions cannot yet be drawn on a broad scale. Addressing this lack of assessment at system and site scales is a priority leading up to 2020 and beyond.

Aichi Target 11 requires that protected areas are "equitably managed". Equity in protected areas can be understood as a combination of three interlinked elements (Schreckenberg et al., 2016):

1. Recognition equity relates to acknowledgement and respect for stakeholders, as well as their social and cultural diversity, and their values, rights and beliefs.
2. Procedural equity relates to how decisions about the protected area are made, and the extent to which stakeholders are able to participate. This aspect of equity also includes issues of transparency and accountability, and methods of redress in cases of conflict relating to the protected area's management.
3. Distributive equity is associated with the distribution of benefits (e.g. financial revenues from eco-tourism), and burdens (e.g. loss of access to natural resources or sacred sites).

The CBD Secretariat (2011) has described equitable management of protected areas in the following terms: '*protected areas should also be established and managed in close collaboration with, and through equitable processes that recognize and respect the rights of indigenous and local communities, and vulnerable populations. These communities should be fully engaged in governing and managing protected areas according to their rights, knowledge, capacities and institutions, should equitably share in the benefits arising from protected areas and should not bear inequitable costs*'.

Enabling conditions that can make it easier for protected areas to be established, governed and managed in an equitable way (Schreckenberg et al., 2016; Franks et al., 2016) includes the recognition of all IUCN governance types; shared awareness of the principles of equity, and capacity to act on this awareness among relevant actors; recognition of customary rights; alignment between statutory and customary laws; and an adaptive approach.

Beyond being essential from a human wellbeing and rights perspective, there is emerging evidence that elements of equity are positively correlated with the success of protected areas in conserving nature (Oldekop et al., 2016; Klein et al., 2015). The consideration of gender equality in protected area management is also key to achieve more effective and sustainable results (Gonzales and Martin, 2007). However, as a complex concept bridging environmental and social factors, equity has proven difficult to monitor and measure. Box 9 presents some current initiatives investigating ways to assess equity in the governance and management of protected areas.

The IUCN Green List of Protected and Conserved Area Standard includes a suite of criteria and associated indicators that requires the assessment of the most important elements of equity and good governance, and will provide further information on how these are interpreted and applied globally in due course (see Box 7 in Chapter 5).

The diversity of governance types of protected areas in any national system provides an indication of the recognition of the diverse actors involved in these conservation efforts, but does not itself inform an understanding of whether this is good governance or equitable management (see more on governance in Box 10). Looking beyond governance type, assessments of governance quality in protected areas can provide insights on whether sites are equitably managed. Box 11 presents findings of a community-led governance assessment with a focus on equity.

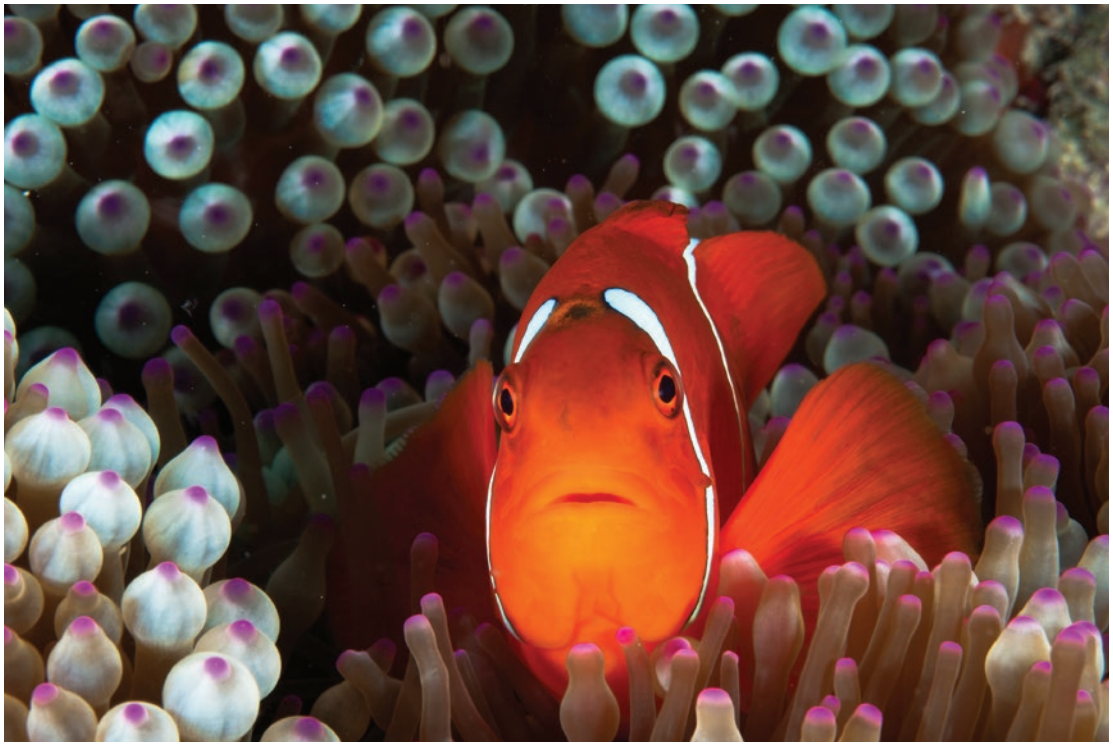
In summary, there are challenges associated with monitoring this element of Aichi Target 11. However, progress is being made at multiple levels. Eighty Parties to the CBD have identified priority actions relating to equity and governance in protected areas. These actions range from recognising diverse governance types to promoting procedural and distributive equity (CBD Secretariat, 2018a). Globally-applicable methods have been developed to assess equitable governance and management, and it is important that these methods are more widely applied and reported up to 2020 and beyond.

Box 9. Measuring equity

There are several ongoing initiatives investigating how to measure equity in the governance and management of protected areas, including within the IUCN Green List of Protected and Conserved Areas (see Chapter 4). Such initiatives are needed because existing methods of assessing the quality of protected areas, such as management effectiveness assessments, have been found to be inadequate for assessing equitable management (Moreaux et al., 2018).

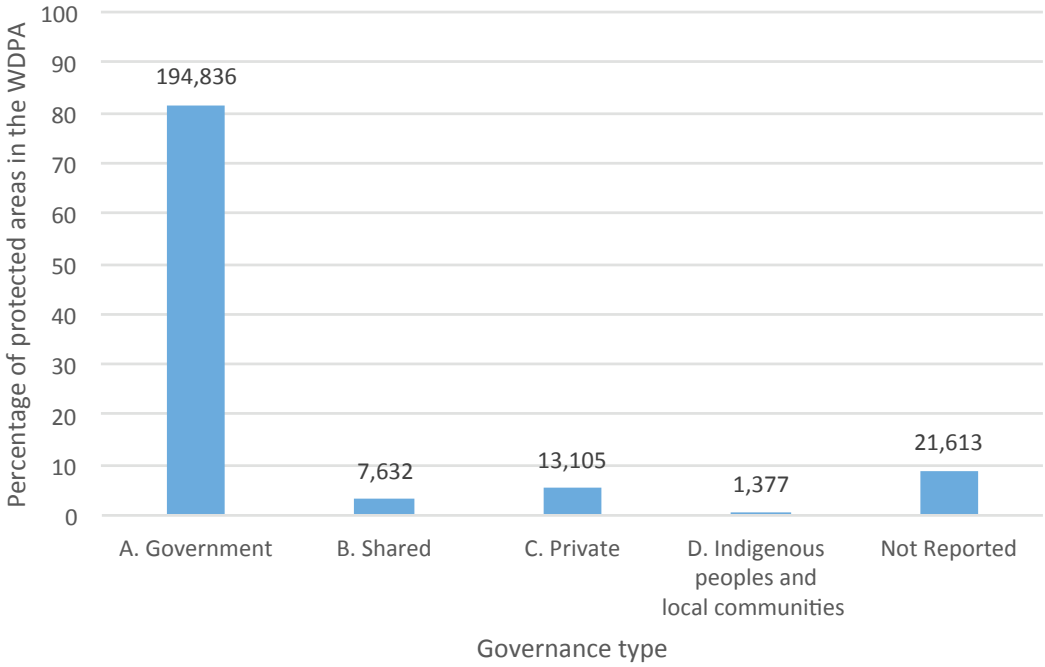
A comparison of equity principles and the IUCN framework of good governance principles for protected areas (Borrini-Feyerabend et al., 2013) has revealed a very strong overlap between the two sets of principles (Franks et al., 2018). The converse is not the case, as there are governance issues of direction and performance, which do not always pursue equity objectives, for example strategic vision and coordination with policies of other sectors (direction), on-going evaluation of management effectiveness and innovation, and efficient use of financial resources (performance). The International Institute for Environment and Development (IIED) has been working with the German Agency for International Cooperation (GIZ) and IUCN over the last three years to develop a practical, stakeholder-led approach to assessing the quality of governance at site level (IIED, forthcoming). It is based on the IUCN good governance principles, with a strong emphasis on equity, and can therefore be used to assess equity strengths and weaknesses in qualitative terms, and can inform suggestions for improving governance and equity in a given protected area (see Box 10 below).

In a separate approach, Zafra-Calvo et al. (2017) developed a method to assess equity, distilling equity into ten indicators, and developing a questionnaire that would inform these indicators. In a subsequent study (Zafra-Calvo et al., 2018), the questionnaire was shared with protected area governance actors and other stakeholders. Respondents were faced with three multiple-choice answers per question, resulting in a score of either 1 (lowest score), 2 or 3 (highest score) for each indicator. Based on results from 225 protected areas across the world, the authors found participation in decision-making, transparency, and mechanisms for dispute-resolution to be particularly low-scoring in many protected areas. In contrast, benefit-sharing scored highly. This method is intended to inform conclusions and policy recommendations across protected area networks, and support the tracking of Aichi Target 11. However, there are limitations associated with aggregating the results of assessments in this way. In particular, the degree to which results can be compared is limited because the balance of different stakeholders will vary between assessments, and the governance type could also affect the results.



Box 10. Governance types, governance quality, and equity

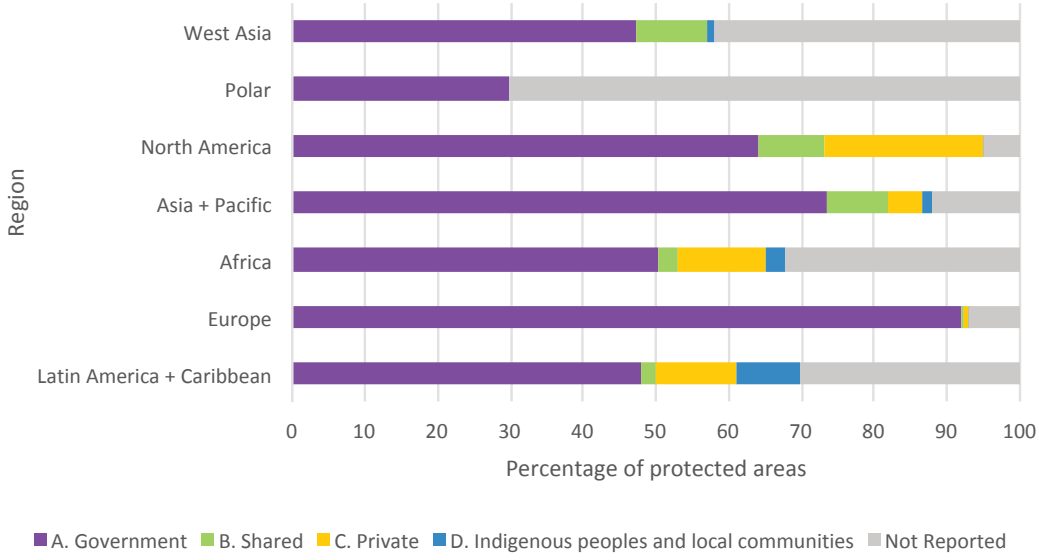
Protected areas under all IUCN governance types can be reported to the WDPA, but non-government types are currently under-reported (see figure below), with 82% of recorded protected areas managed by government agencies. In practice, there is a wider diversity of governance arrangements, but governments do not always report on protected areas outside their own governance (Bingham et al., 2017; Corrigan et al., 2016). Furthermore, not all areas under other governance arrangements are yet identified and recognised, and in other cases, the custodians of these areas may not want them to be recognised through official reporting. This reflects a need to stepup identification and appropriate recognition of the conservation efforts of diverse actors.



Number and percentage of protected area reported in the WDPA under each IUCN governance type. Source: UNEP-WCMC and IUCN, 2018a.

Box 10. Governance types, governance quality, and equity (*continued*)

There are major regional differences in the reported occurrence of different governance types (see figure below). The percentage of reported protected areas under shared governance ranges from less than 1% in Europe and Polar regions to 10% in West Asia. In North America, 22% of protected areas are reported as under private governance, while the figure is less than 1% in Europe and West Asia. Although 9% of protected areas in Latin America and the Caribbean are reported as under the governance of indigenous peoples and local communities, the figure is less than 3% for all other regions. In the Polar regions, 70% of protected areas (66/94) have no reported governance type.



Percentage of protected areas under each IUCN governance type per region.
Source: UNEP-WCMC and IUCN, 2018a.

Box 11. Case study: Community-led governance assessment in the Mara North Community Conservancy in Kenya

In July 2017, a stakeholder-led governance assessment took place at the Mara North Community Conservancy. This area borders the Masai Mara National Reserve in Kenya. It is owned by the local Masai people and is leased to 12 tourism operators under a shared governance arrangement. Since the Masai already have secure land rights to the conservancy, the assessment focused on the procedural and distributive dimensions of equity, with a strong emphasis on gender issues that emerged during the assessment. Three of the key findings were:

- **Participation:** There was a lack of representation of women in decision-making, especially in the Land Owners' Committee (LOC), the main governance structure of the conservancy below the Board, which has no women members. Women, however, are interested in the conservancy and felt that they should be represented in the LOC and its sub-committees.
- **Transparency:** Unlike the well-informed men, women lack basic information on what the conservancy is, what it means to have land under lease, and what their rights are regarding the conservancy. For example, women do not know why they are banned from collecting firewood within the conservancy and consider this unfair as men are still permitted to graze their cattle.
- **Benefit-sharing:** the plan for controlled grazing within the conservancy does not recognise the differing number of cattle heads amongst the Masai who own the conservancy. Those members with few cattle emphasised that members with large numbers of cattle unfairly benefit from the grazing benefits of the conservancy.

Mara North Community Conservancy: a women's focus group discussing successes and challenges in levels of participation and transparency. ©Phil Franks.

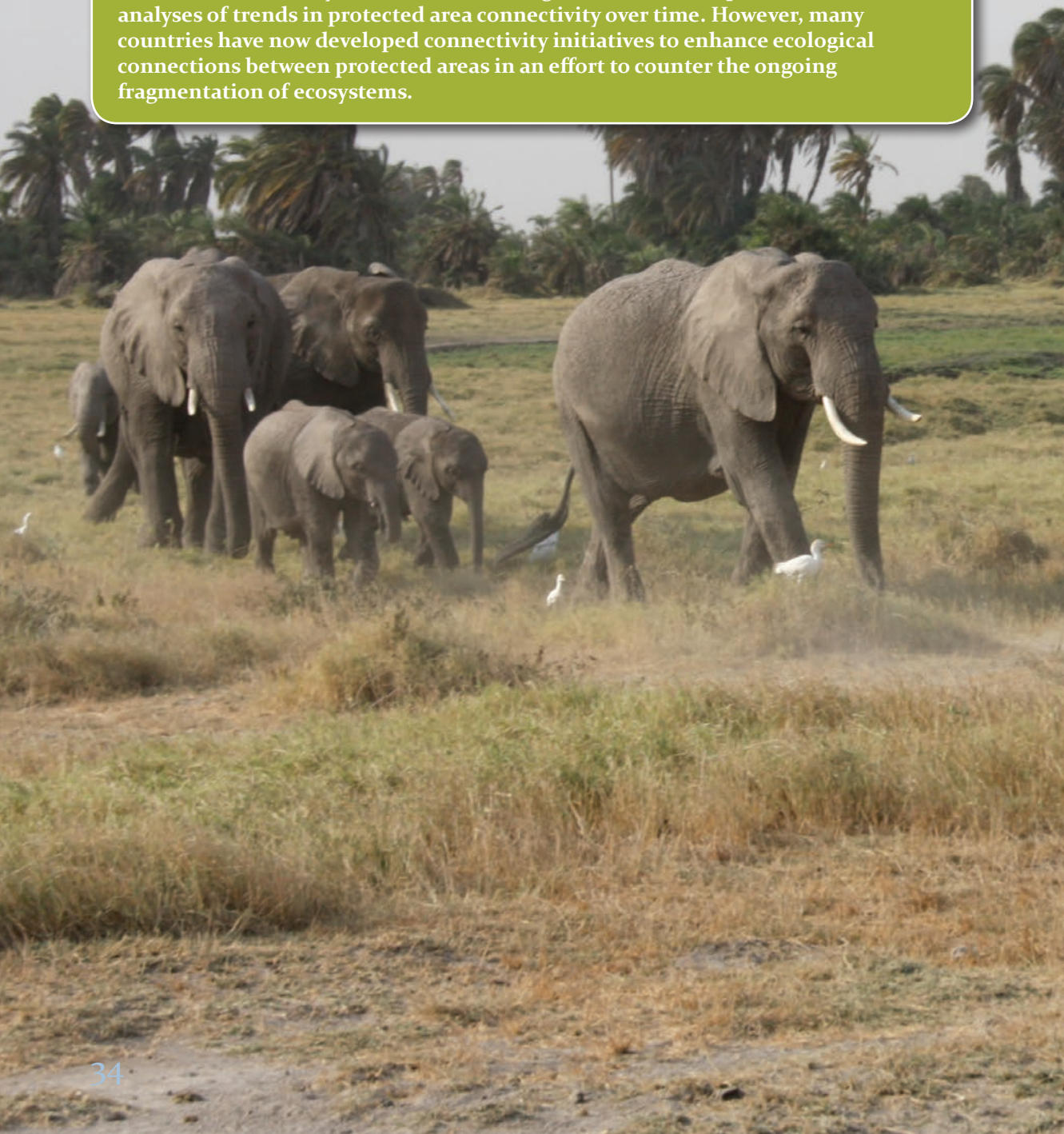
Over the year since the assessment took place, considerable progress has been made in providing more information to women members of the conservancy, and ensuring that they are well represented in decision-making processes. Progress on equitable access to grazing is slower but moving in a positive direction.

This is an example of an approach to equity assessment in which the assessment is designed to serve the needs of stakeholders at the site level. However, in order to be used in decision-making processes at higher levels, this approach would require wider application using standardised methods and facilitators.

Chapter 7. Well-Connected Systems

Key Messages:

Connectivity between protected areas is essential to maintain the viability of species, communities and ecosystems. Metrics to measure connectivity at the global level have been developed, revealing that about half of the global protected area network consist in connected lands, and that 30% of countries currently meet the connectivity element of Aichi Target 11. There are at present no available analyses of trends in protected area connectivity over time. However, many countries have now developed connectivity initiatives to enhance ecological connections between protected areas in an effort to counter the ongoing fragmentation of ecosystems.



Aichi Target 11 calls for protected area systems to be well-connected. It should therefore take into account ecological connectivity and the concept of ecological networks, including connectivity for migratory species (through, for example, "fly-ways" for migratory birds). Allowing species movement between protected areas contribute to enhancing ecological integrity and resilience (Worboys et al., 2010). This is particularly important given the many threats faced by biodiversity, including from climate change, and the increasing isolation of natural habitats in many parts of the world. Tucker et al. (2018) analysed movements of 57 mammal species in areas of high human footprint across the world and concluded that there has been a severe decline in the capacity of mammals to move in the landscape as a result of human development.

In recent years, a number of initiatives have been developed at various scales to promote connectivity between protected areas and other conservation areas (see Box 12 for an example in Kenya), and the IUCN WCPA Connectivity Specialist Group is working on connectivity issues and guidance on best practice to encourage connectivity within terrestrial and marine ecosystems. However, despite these insights, there is still no globally agreed methodology to measure and report on connectivity.

At the global level, the Protected Area Representativeness and Connectedness (PARC) index has been developed and showed that despite the designation of new protected areas, there has been no improvement in connectivity at the global level between 2000 and 2012 (CBD Secretariat, 2018a). More recently, Saura et al. (2018) developed a new indicator, "Protected Connected" (ProtConn), to quantify the degree to which national terrestrial protected area systems are well designed to promote connectivity. This study found that on average 7.5% of the terrestrial surface of the planet is covered by protected connected lands, which is about half of the global protected area coverage (14.7%), and that 30% of the countries currently meet the connectivity element of Aichi Target 11 (Figure 14).

This study also identified key priorities for countries to enhance the connectivity of protected area networks (Figure 15). Many of the world's countries, including large countries like USA, Mexico, Russia, China or Australia, will likely need to designate new protected areas to improve connectivity, particularly through targeted designation in strategic locations for connectivity, so that they can function as corridors or stepping stones between existing protected areas. In other countries, the designation of more terrestrial protected areas may not be the main priority to enhance connectivity, and efforts might be focused on ensuring the coordinated management of adjacent and transboundary protected areas, and ensuring the permeability for species movements of landscapes between protected areas.

To date, no assessment of the connectivity of marine protected areas has been carried out.

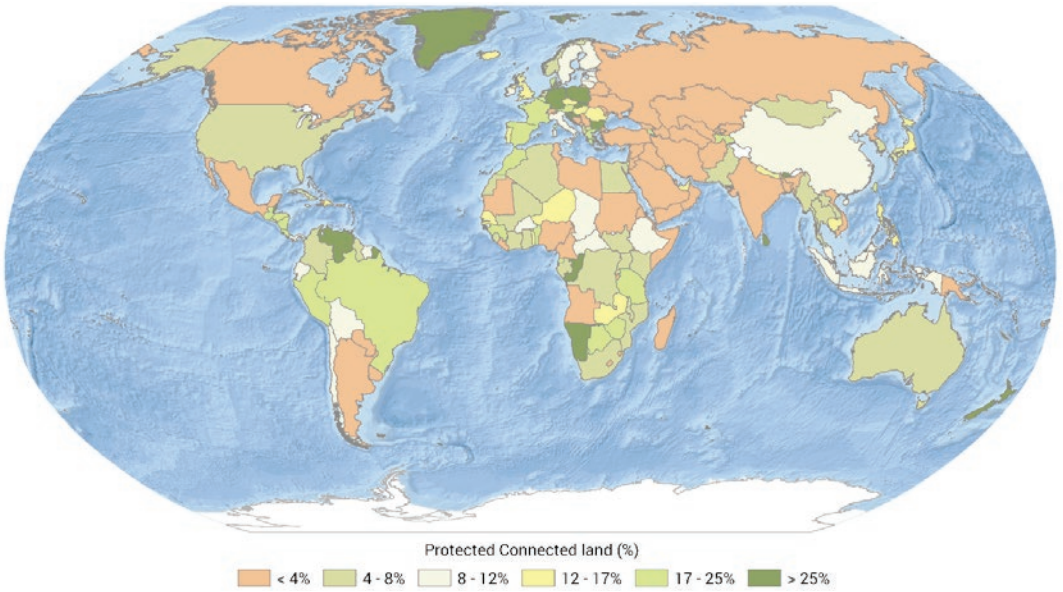


Figure 14. *Map of 'Protected Connected land' in the world using the ProtConn indicator, for species with a median dispersal distance of 10 km. Source: Adapted from Saura et al. (2018).*[15]

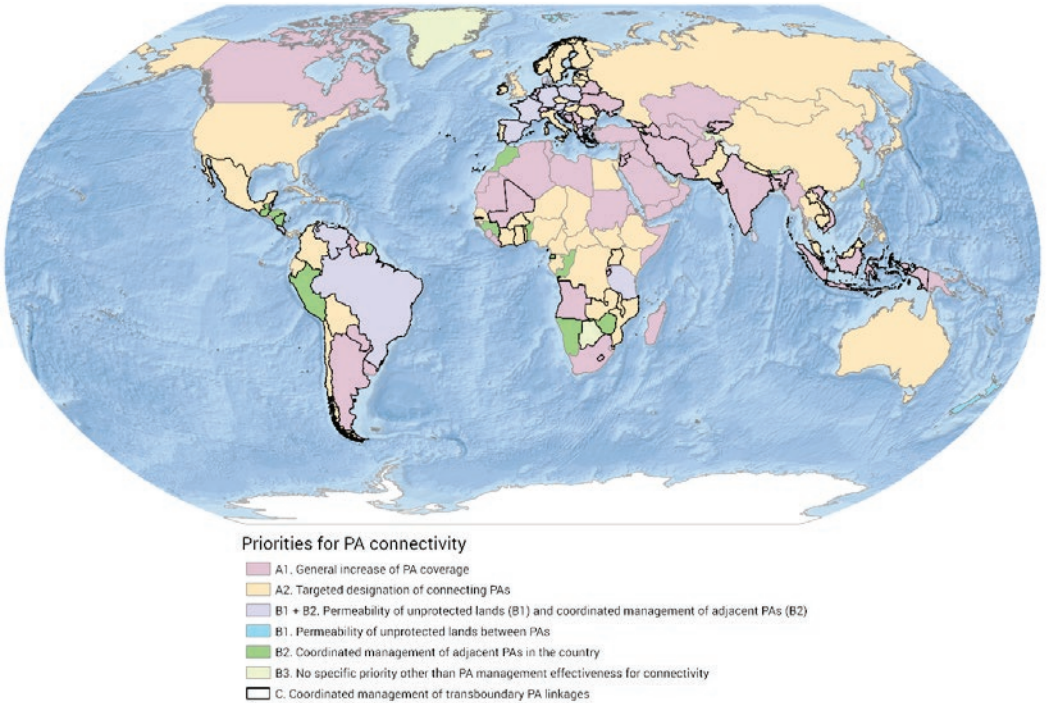


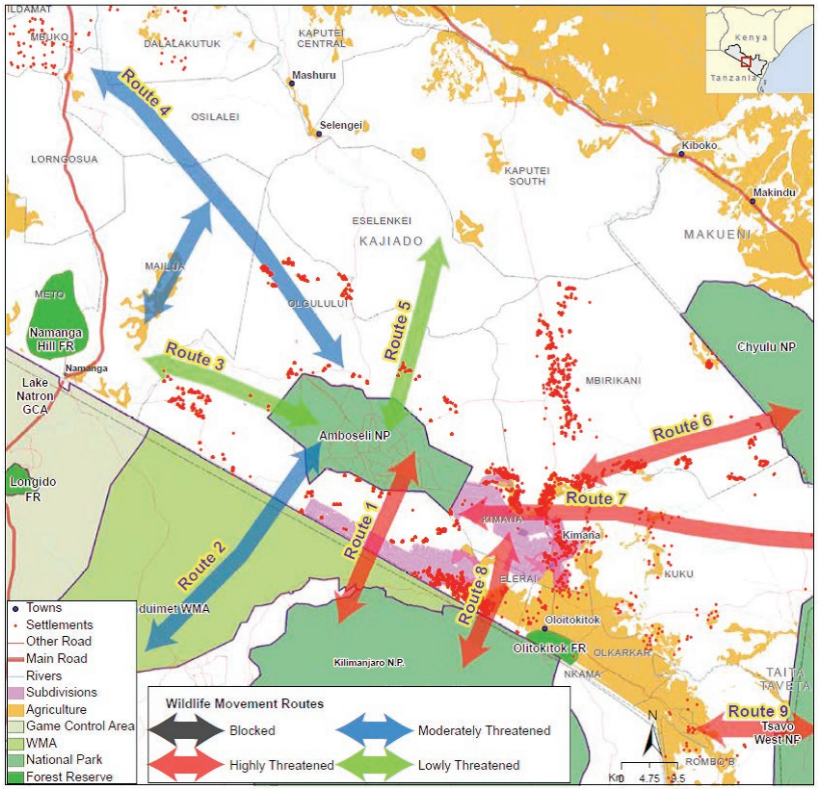
Figure 15. *Priority considerations for countries in order to enhance protected area connectivity on land. Source: Adapted from Saura et al. (2018).*[16]

[15] The United States of America and the Holy See are not Parties to the CBD.
[16] Ibid.

Box 12. Case study: Wildlife migratory corridors and dispersal areas in Kenya.

The wildlife migratory corridors and dispersal areas study (Ojwang' et al., 2017) is part of the flagship project on *Securing wildlife dispersal areas and migratory corridors* of the Vision 2030 of the Kenyan government.

In Kenya, wildlife populations have declined dramatically over the last few decades, while human-wildlife conflict has been increasing. In order to reverse this trend, there is an urgent need to assess and secure Kenya's wildlife dispersal areas and migratory corridors. This study focuses on mapping these areas in order to develop a Conservation Connectivity Framework to facilitate the design of a strategy for protecting the wildlife present in human and livestock dominated landscapes. Eight globally threatened keystone mammal species were selected, and a total of 110 migratory routes and corridors were identified in the southern and northern Kenya rangelands and coastal terrestrial ecosystems.



Wildlife migratory routes/corridors and threats in the Amboseli Ecosystem.
Source: Ojwang' et al. (2017)

Box 12. Case study: Wildlife migratory corridors and dispersal areas in Kenya. (*continued*)

Almost all the wildlife dispersal areas and migratory corridors in the Kenya rangelands have been impacted to some extent by human activities and some are highly threatened. The main threats to habitat connectivity are incompatible land use in wildlife areas, such as crop cultivation; large human settlements; fences; mining; deforestation; wetland drainage; high-density livestock presence; and poaching.

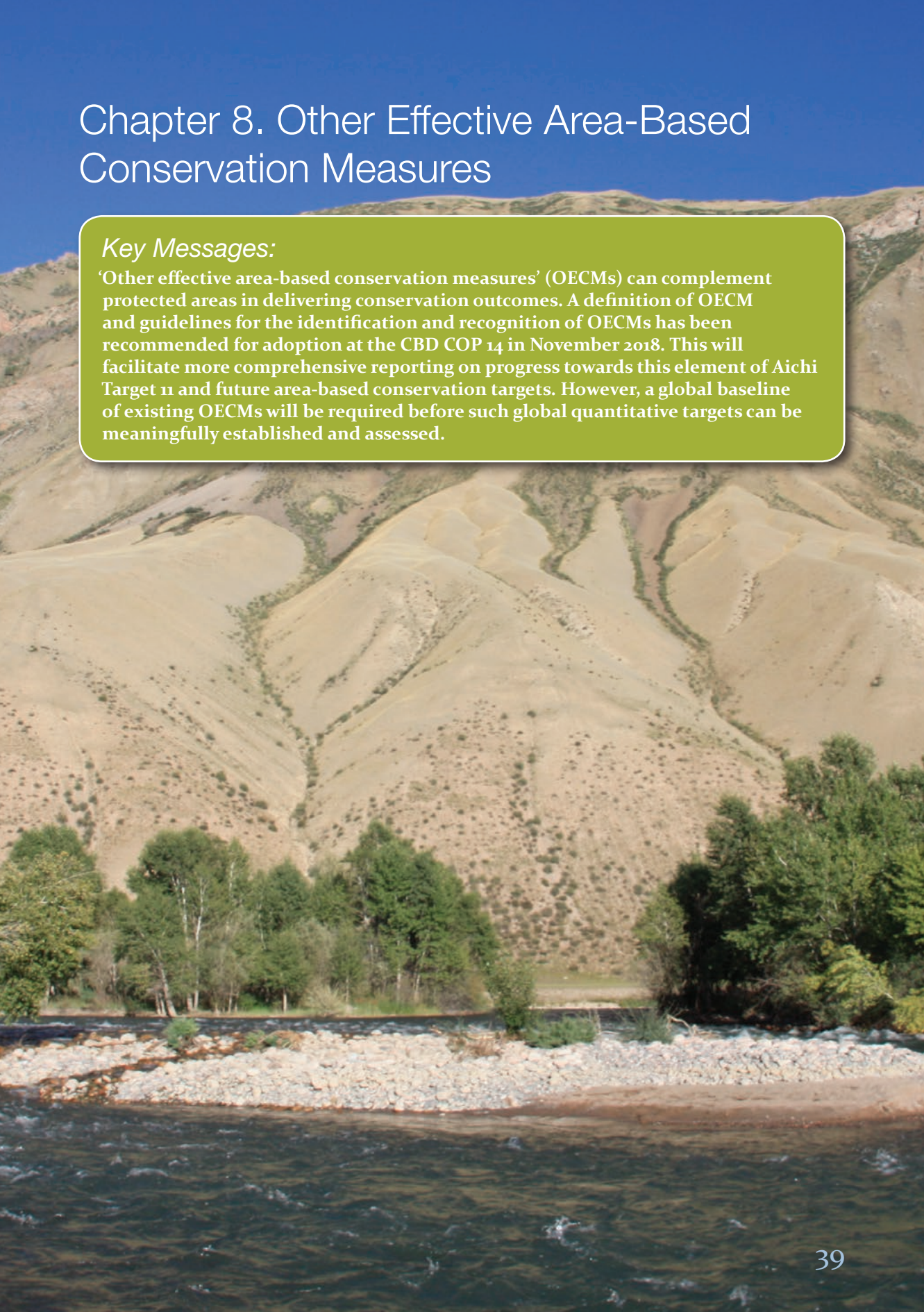
To address these impacts, the study makes the following recommendations:

- Develop, expand and implement the proposed Conservation Connectivity Framework by establishing a collaborative and transparent consultative process;
- Identify, prioritize and secure wildlife dispersal areas and migratory corridors through a prioritized scheme;
- Promote integrated land use for spatial planning that takes into account all social, economic, biophysical and natural resources;
- Review policies and legislation related to land use, wildlife conservation, forestry, water, and agriculture;
- Promote community participation in biodiversity conservation;
- Implement an effective management of wildlife dispersal areas and migratory corridors through research and monitoring systems, and in collaboration with stakeholders;
- Source and provide the necessary resources for conservation connectivity management; and
- Carry out monitoring and evaluation to ensure effective management.

Chapter 8. Other Effective Area-Based Conservation Measures

Key Messages:

'Other effective area-based conservation measures' (OECMs) can complement protected areas in delivering conservation outcomes. A definition of OECM and guidelines for the identification and recognition of OECMs has been recommended for adoption at the CBD COP 14 in November 2018. This will facilitate more comprehensive reporting on progress towards this element of Aichi Target 11 and future area-based conservation targets. However, a global baseline of existing OECMs will be required before such global quantitative targets can be meaningfully established and assessed.



Aichi Target 11 states that, by 2020, at least 10% of the marine environment and 17% of the terrestrial environment should be covered by protected areas and '*other effective area-based conservation measures*' (OECMs). In response to CBD COP Decision XI/24, IUCN WCPA established a Task Force on OECMs to provide input on guidance to Parties to the CBD, and this was discussed at expert workshops convened by the CBD Secretariat resulting in a recommendation to CBD COP14 (CBD, 2018). Due to the lack of global data on OECMs, it is not possible to report on the OECM contribution to Aichi Target 11. However, if a baseline of OECM coverage is established in advance of setting any future area-based conservation targets, they could be included in reporting on progress towards such future targets.

The definition proposed by the CBD SBSTTA (CBD, 2018) that will be considered by CBD COP 14 for an Other Effective Area-Based Conservation Measure is: '*A geographically defined area other than a Protected Area, which is governed and managed in ways that achieve positive and sustained long-term outcomes for the in situ conservation of biodiversity, with associated ecosystem functions and services and, where applicable, cultural, spiritual, socioeconomic, and other locally relevant values*'.

Once adopted, the definition and associated guidance on criteria for identification will pave the way for recognition and reporting of these areas, which are managed to achieve a range of objectives (as discussed in Box 13). Box 14 discusses one particular governance category, lands and waters under indigenous peoples' or communal tenure, which may in some cases fulfil the OECM definition.

The SBSTTA also recommended that data on OECMs be provided by countries and territories for integration into the WDPA. Following the decision of the CBD, efforts will be stepped-up to identify and map OECMs to ensure a baseline is in place to underpin discussions on future area-based conservation targets beyond 2020.

Beyond increasing the percentage of the world under recognised area-based conservation initiatives, OECMs offer important opportunities to support other elements of Aichi Target 11 (CBD, 2018), as well as the achievement of other Aichi Targets. Recognition and reporting of OECMs indeed has the potential to increase the total area of the conservation estate, enhance protection of conserved areas under all types of governance, increase ecological representation and connectivity, and recognise and engage a broader range of stakeholders in conservation efforts. Gannon et al. (2017) also highlighted that increasing the recognition of OECMs and different governance types would enhance the prospects for the achievement the target.

Box 13. Examples of measures that may meet the OECM definition

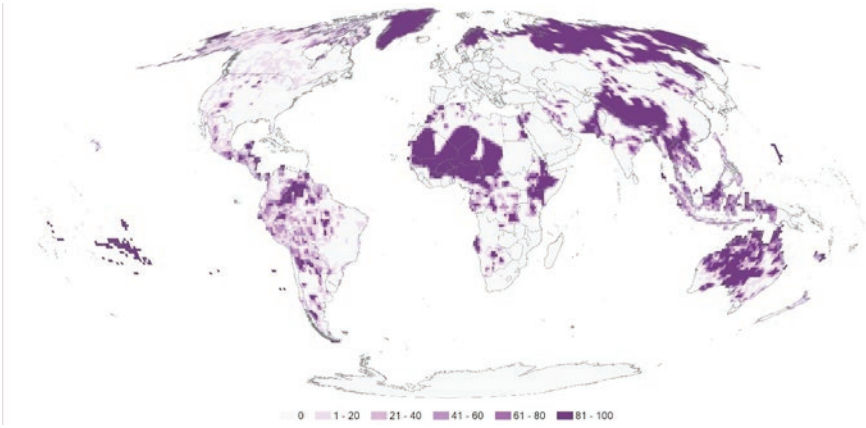
OECMs can be divided into three broad categories (IUCN WCPA, 2018b):

1. Those with **primary conservation** objectives, such as a territory governed by indigenous people, where those people wish their territory to be recognised as an OECM rather than a protected area;
2. Those with **secondary conservation** objectives, such as watersheds managed primarily for water resource management, but with secondary conservation objectives;
3. Areas managed for other objectives but where such management delivers effective conservation (**ancillary conservation**), such as military or other lands and waters where restricted access has resulted in effective protection of habitats and species.

OECMs share many of the characteristics of protected areas (IUCN WCPA, 2018b), but are not currently recognised and reported as such. They are areas outside the protected area network where existing governance and management deliver effective conservation in areas of high biodiversity value. OECMs should be evaluated on a case-by-case basis against recognised criteria, including biodiversity value. A 2018 Special Issue of the journal *PARKS* provides guidance to support OECM identification and case studies of potential OECMS.

Box 14. Case study: lands under indigenous peoples' or communal tenure

Although OECMs can be under the control of a range of governance actors, lands and waters under the governance of indigenous peoples and local communities may often be good candidates to meet the definition. OECMs could therefore potentially provide a good opportunity to increase recognition and support for territories and areas conserved by indigenous peoples and local communities (also known as ICCAs) (CBD, 2018). Indigenous peoples have use or management rights over one quarter of the world's land area (Garnett at al., 2018). Indigenous peoples manage these lands in diverse ways and in pursuit of diverse outcomes but in many cases indigenous peoples' management of their lands may often be consistent with biodiversity conservation. ICCAs are widely accepted as places of high conservation and cultural value, contributing to connectivity and landscape-scale conservation (Borrini-Feyerabend et al., 2012). Many such areas meet the definition of a protected area or an OECM, but are currently under-reported in the WDPA. A dedicated database, the Global ICCA Registry, exists to capture information on ICCAs provided by indigenous peoples and local communities.



Percentage of lands managed and/or controlled by indigenous peoples (Garnett et al., 2018).[17]

ENHANCING THE DOCUMENTATION OF OECMS IN THE WDPA

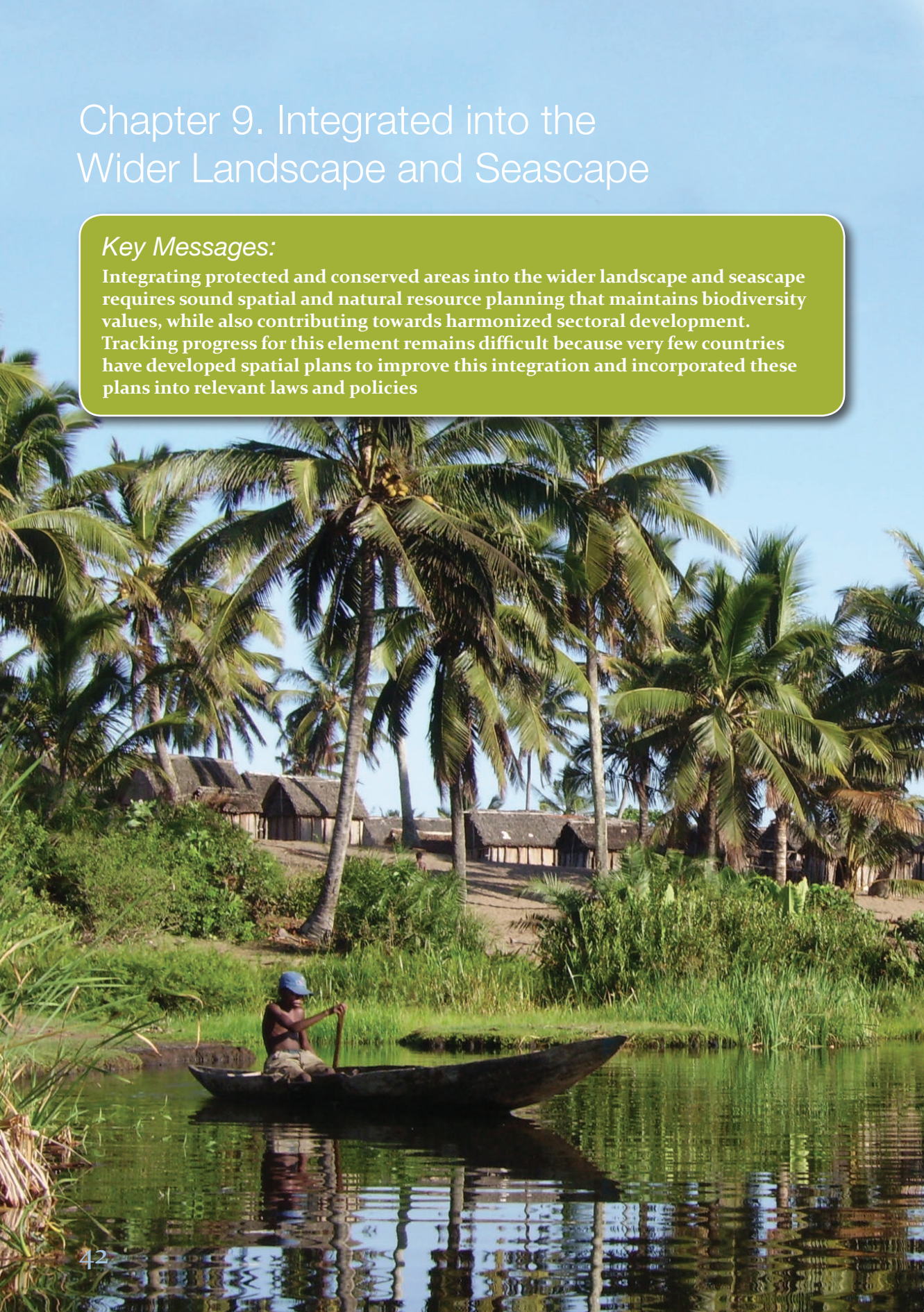
Currently, due to historical data collection methods and reporting obligations, the WDPA consists primarily of data on protected areas reported by governments, and it is a requirement that all sites included in the database meet the IUCN or CBD definition of a protected area. However, once Parties to the CBD have adopted an OECM definition, governments will be encouraged to provide data on OECMs alongside protected areas. While some OECMs will be under State governance, in other cases governments may need to consult with the private actors, local communities and indigenous peoples responsible for OECMs in order to submit data to the WDPA with their consent. Private actors, indigenous peoples and local communities will also be able to provide data directly.

[17] Percentage of each degree square mapped as indigenous in at least one of 127 source documents. See full publication for more details on the methodology used.

Chapter 9. Integrated into the Wider Landscape and Seascape

Key Messages:

Integrating protected and conserved areas into the wider landscape and seascape requires sound spatial and natural resource planning that maintains biodiversity values, while also contributing towards harmonized sectoral development. Tracking progress for this element remains difficult because very few countries have developed spatial plans to improve this integration and incorporated these plans into relevant laws and policies



Aichi Target 11 requires that protected and conserved areas be 'integrated into the wider landscape and seascape' i.e. "*that the design and management of protected areas, corridors and the surrounding matrix fosters a connected, functional ecological network*" (Ervin et al., 2010). The planning and integration process should maintain ecological values, processes, functions and the delivery of ecosystem services. However, according to a review undertaken by UNDP (2016), very few countries have identified specific strategies within their National Biodiversity Strategies and Action Plans (NBSAPs) to integrate protected and conserved areas into the wider landscapes and seascapes.

Protected areas throughout the world are coming under widespread human pressures that have profound impacts on biodiversity and ecosystem services (Jones et al., 2018a). Box 15 presents a global assessment of human pressures on terrestrial protected areas, while Box 16 assesses the current level of protection of the earth's remaining areas of low human impact.

Increasing pressures on protected areas require efforts targeted not only at improving their governance or management, but also within the context of better planning and decision-making in the wider production landscape and seascape, and better integration of protected areas and OECMs in sector policies and programmes. The role of protected areas in contributing solutions to a multitude of global challenges beyond their conservation benefits (see Box 17), such as climate change (Dudley et al., 2010), food and water security, would be facilitated by this integration.

The ecosystem approach is the primary framework under the CBD for integrated management that promotes conservation and sustainable use in an equitable way (CBD Secretariat, 2004). The CBD has adopted a number of decisions (see for instance CBD COP decisions X/6, XIII/3 and X/31) that concern mainstreaming biodiversity into other sectors and the integration of protected areas in national and economic development plans. More recently, Parties to the CBD recommended the application of voluntary guidance that includes measures to enhance integration of protected areas and other effective area-based conservation measures into the wider land and seascapes and provides guidance on mainstreaming of protected areas across sectors to contribute to the Sustainable Development Goals (CBD, 2018).

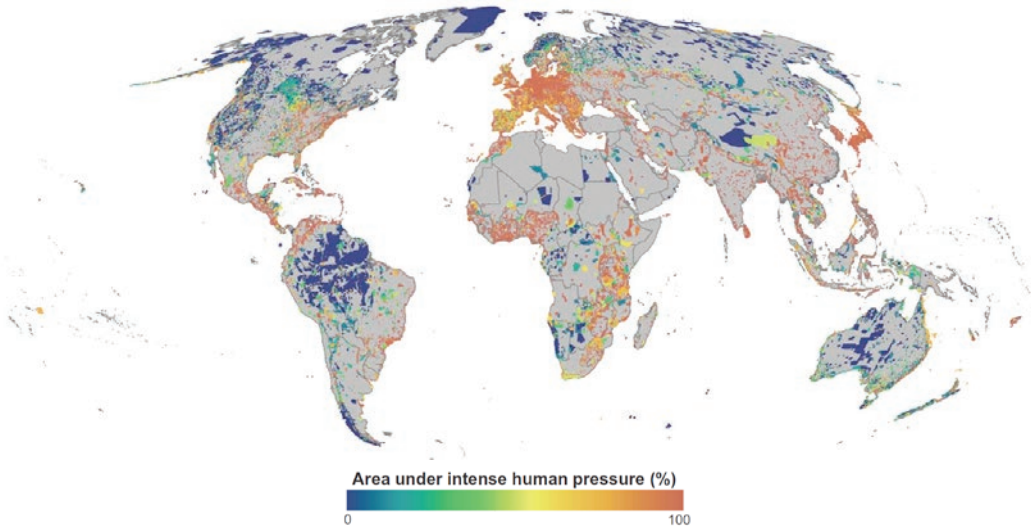
There are examples of efforts to achieve this element of Aichi Target 11. For instance, one of the objectives of the REDPARQUES initiative (the Latin American Technical Cooperation Network on National Parks, other Protected Areas and Wildlife) is to integrate protected areas into national climate change strategies. However, to date there is still no agreed indicator for tracking progress on the integration of protected areas into wider landscapes, seascapes and sectors, and only limited information is available on the status of this element (CBD Secretariat, 2018a). It is recommended that each country start integrating their protected areas into local, regional, and national spatial planning and mainstreaming them into important sectors.

Box 15. Human Footprint: Areas under intense human pressure

One way to assess how protected areas can be linked into the wider land and seascape is to assess areas of remaining wilderness or low human foot-print, as identified on land (e.g. Venter et al., 2016) and in the ocean (e.g. Jones et al., 2018b), as this gives a clear indication of how connected landscapes and seascapes are, from an ecological perspective.

However, it is also critical to gauge how intact protected areas are, within their boundaries. Using a comprehensive global map of human pressure, Jones et al. (2018a) have shown that one third (32.8%) of terrestrial protected areas are under intense human pressure. Furthermore, 55% of protected areas that were designated before 1992, when the CBD was adopted, have experienced increases in human pressures.

Progress in halting global biodiversity loss may be undermined by widespread human pressure inside protected areas. There is therefore an urgent need for countries to undertake assessments of human pressure and habitat condition within protected areas and to improve management. The analysis also shows that protected areas yield substantial impact in reducing ecosystem conversion compared to conversion suffered in unprotected regions.

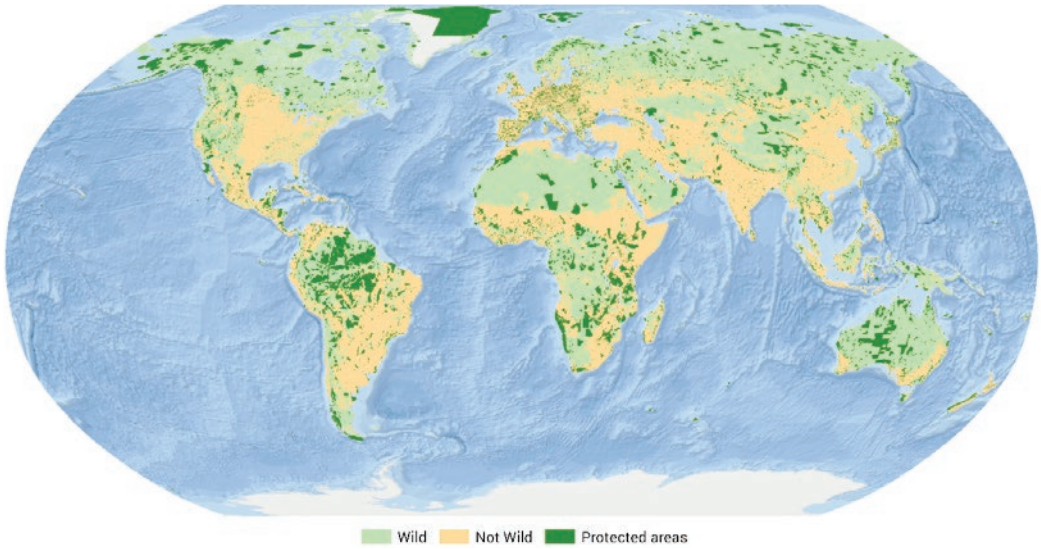


Percentage of each protected area that is subject to intense human pressure, spanning from low (blue) to high (orange) levels. Source: Jones et al. (2018a)

Box 16. Habitat loss, protected areas and the earth's remaining wild places.

Watson et al. (2016a) used the revised Human Footprint map (Venter et al. 2016) to measure habitat conversion and showed that between 1993 and 2009 protected area establishment outpaced habitat conversion across all biomes and the majority of ecoregions globally. However, they also highlighted the fact that more than half of ecoregions were still undergoing a high ratio of conversion to protection, and identified several ecoregions where recent habitat conversion was severe and protected area coverage very low. In another study, Watson et al. (2016b) showed that the Earth's wilderness areas were disappearing at a rate that has significantly outpaced their protection over the past two decades.

To address gaps in knowledge, the National Geographic Society (NGS) is developing a Human Impact Map aimed at identifying the planet's remaining, relatively untouched terrestrial landscapes.[18] Regions have been identified as 'wild' if they have low human populations and are places where nature is relatively unimpeded by activity to support human development (such as farming and energy production). The Human Impact Map has been derived from multiple datasets for population, livestock, agriculture and land cover from 2005 to 2017. Based on these data, 20.4% of the earth's remaining areas of low human impact are within protected areas (see Figure below), while 11.5% of the world is both protected and under low human impact.



Overlap of the earth's remaining areas of low human impact with protected areas. Source: Human Impact Map (NGS), UNEP-WCMC and IUCN (2018a).

[18] This analysis will be complemented by another study facilitated by National Geographic Pristine Seas to prioritise key areas of ocean to protect. For further information, please see footnote 6 in Chapter 3.

Box 17. PANORAMA – Solutions for a Healthy Planet

PANORAMA is a partnership initiative to document and promote examples of inspiring, replicable solutions across a range of conservation and sustainable development topics, enabling cross-sectoral learning and inspiration. PANORAMA allows practitioners to share and reflect on their experiences, increase recognition for successful work, and to learn with their peers how similar challenges have been addressed around the globe. Different thematic communities contribute to PANORAMA. All solutions are published on a web platform (www.panorama.solutions).

IUCN coordinates the thematic community on "protected areas", which assembles case studies that showcase how protected areas provide solutions to a multitude of global challenges beyond their conservation benefits, such as climate change, food and water security. It also promotes innovative approaches to protected area management and governance itself. Through PANORAMA, such protected area solutions are placed in a larger pool of solutions from different themes.

Four categories of solutions can be found on the website:

1. Marine and Coastal Solutions;
2. Protected Areas Solutions;
3. Ecosystem-based Adaptation Solutions; and
4. Agriculture and Biodiversity Solutions.

PANORAMA
SOLUTIONS FOR A HEALTHY PLANET

Chapter 10. Conclusions and Recommendations

SUMMARY OF PROGRESS FOR EACH ELEMENT OF AICHI TARGET 11

Since the Aichi Biodiversity Targets were agreed in 2010, there has been significant progress towards achieving elements of Target 11 in terms of land and sea coverage. However, a significant amount of work still needs to be done to achieve other elements of the target, as recently highlighted in an updated status of progress towards Aichi Biodiversity Target presented at SBSTTA 22 (2018a) and in this report (Table 3).

Table 3. *Summary of key progress to July 2018 towards each element of Aichi Target 11, as identified in this report.*

Element of Aichi Target 11	Progress at the global level in 2018
Global Coverage	Protected area coverage (Chapter 2) has increased significantly, with almost 15% of terrestrial areas and over 7% of marine areas protected, mainly within EEZs. With concerted efforts from governments to implement national commitments, this quantitative element is on track to be achieved.
Areas of Importance for Biodiversity and Ecosystem Services	There has been some progress in protecting areas that are important for biodiversity and ecosystem services (Chapter 3). Currently, on average, almost half of each terrestrial, freshwater and marine Key Biodiversity Areas lie within protected areas. Significant steps are required to address the conservation of further important areas, and many countries have made commitments to do so.
Ecologically Representative	The ecological representation of protected areas across terrestrial and marine ecoregions is variable (Chapter 4). However, the coverage of some ecological regions has improved, particularly in the ocean, mostly due to the recent rapid expansion of the marine protected area network, including the declaration of several very large MPAs.
Effectively Managed	Management effectiveness (Chapter 5) has now been assessed and reported in GD-PAME for about 20% of the global coverage of all protected areas in the WDPA. It is however difficult to track progress on this element of the target given the lack of systematic reporting, the absence of consistent data and the diversity of tools being used to assess effectiveness.
Equitably Managed	Some progress has been made on measuring protected area equity (Chapter 6), with a number of methodologies recently developed. However, only a very small sample of protected areas have been assessed, and this remains a priority for further development and application. The importance of gender equality should also be taken into consideration in protected area governance and management.
Well-Connected Systems	Some interesting initiatives have been implemented to enhance connectivity between protected areas. Some metrics have also been developed to measure connectivity at the global level, and one study has shown that 30% of countries currently meet the connectivity element of Aichi Target 11. However, due to ongoing habitats destruction and fragmentation, there remain important challenges in strengthening connectivity across systems of protected and conserved areas (Chapter 7).
Other Effective Area-Based Conservation Measures	A definition and criteria for identification of Other Effective Area-Based Conservation Measures (Chapter 8) will be reviewed at the CBD COP14 These areas are likely to play an increasingly important role in the protection of biodiversity and ecosystem services, and in enhancing connectivity.
Integrated in the Wider Landscape and Seascape	Few countries have developed spatial plans that take into account protected and conserved areas, and have incorporated these plans into relevant policies. However, tracking progress for this element remains difficult and greater efforts still need to be invested in mainstreaming biodiversity conservation, including strengthening integration of protected and conserved areas in the wider landscape and seascape (Chapter 9).

Therefore, although the coverage aspect of Aichi Target 11 is likely be met by 2020, the overall target is unlikely to be met if the other essential qualitative elements of the target are not achieved.

RECOMMENDATIONS FOR MEETING AICHI TARGET 11 BY 2020

Previous Protected Planet reports have suggested a number of priority actions that could be implemented to enhance progress towards achieving Aichi Target 11. Table 4 highlights key recommendations to accelerate progress towards the different elements of Target 11.

Table 4. *Recommendations to achieve the different elements of Aichi Target 11 by 2020.*

Element of Aichi Target 11	Recommendations
Global coverage	Recent efforts to expand protected area networks to reach these global goals should be enhanced, and in particular mechanisms agreed for the protection of ABNJs. In particular, identification and recognition of OECMs (see below) is likely to increase both coverage and ecological representativeness and should not be seen in isolation. If implemented strategically, improving coverage will also contribute to enhance other qualitative elements of Aichi Target 11, such as connectivity and integration into the wider landscape and seascape.
Areas of importance for biodiversity and ecosystem services	Any newly designated protected or conserved areas need to be targeted towards documented areas of importance for biodiversity, such as Key Biodiversity Areas. The protection of threatened and rare species should be enhanced, and ecosystem services should be better identified, mapped and protected. The recognition OECMs will likely improve understanding of the status of coverage of these priority areas.
Ecologically Representative	The expansion in the global protected area network needs to be better targeted to increase the representativeness of different biogeographical areas, both in the terrestrial and marine realms.
Effectively Managed	Many countries are conducting management effectiveness assessments, but these are still not always reported in GD-PAME. More resources need to be directed towards assessing the effectiveness of management activities, and assessments should be systematically reported and included into the database. More studies are also needed to improve our understanding of the links between management and biodiversity outcomes.
Equitably Managed	Although some recent studies of equity have been carried out, and a set of principles for measuring equity has been established, there is still no globally applied systematic assessment of equitable management. A set of measurable global indicators (that also integrate a gender perspective) needs to be developed and agreed in order to provide reliable assessments of protected area equity and to enable tracking of progress.
Well-Connected Systems	Some connectivity initiatives have been implemented, but the principles of connectivity need to be integrated into institutional and legal frameworks, as well as national spatial planning and climate change adaptation programmes. The development of new global indicators has shown that the connectivity of the protected area networks of most countries still needs to be improved.
Other Effective Area-Based Conservation Measures	All OECMs need to be officially recognised and reported, and a concerted effort should be made to collate information on these areas, including their spatial data, to support and enable their effective and equitable governance and management.
Integrated in the Wider Landscape and Seascape	Protected areas are an essential tool to address a number of global threats such as climate change, food and water security. However, they need to be better integrated into national planning and decision making to enhance both biodiversity and social outcomes. In addition, threats facing biodiversity, both within and outside protected areas, need to be properly addressed, and the opportunities of protected and conserved areas for contributing towards sustainable development realised.

NEXT STEPS LOOKING POST-2020

In 2020, governments will review progress against the goals and targets of the Strategic Plan for Biodiversity 2011-2020 and the Aichi Targets, and agree a new global biodiversity framework. The post-2020 global framework will provide both the context and the level of ambition for action to address threats to biodiversity, including in relation to protected and conserved areas. The Convention has already agreed a 2050 Vision of 'Living in harmony with nature', which provides context for the post-2020 global framework. In developing a post-2020 strategy, Aichi Target 11 will be reviewed and Parties to the CBD are anticipated to agree on new targets and measures for area-based conservation (CBD Secretariat, 2018a and 2018b). In order to establish meaningful future area-based conservation targets, it will be essential to establish a baseline of current OECM coverage.

Wide-ranging discussions are underway to consider how to maintain momentum towards the current Aichi Targets, while foreseeing the necessary ambition beyond 2020 that will halt the loss of biodiversity and support the achievement of the Sustainable Development Goals. Several international conferences have already taken place, including a symposium held in London in February 2018 on 'Safeguarding space for nature and securing our future: developing a post-2020 strategy' (CBD Secretariat, 2018c). Several proposals have already been put forward for post-2020, with some authors suggesting a much more ambitious protected area agenda (e.g. Locke, 2015; Wilson, 2016; Watson and Venter, 2017; Baillie and Zhang, 2018; Maron et al., 2018). However, in order for this new strategy to be meaningful, it needs to be based on sound science and evidence (CBD Secretariat, 2018b), as well as being applicable in practice. It is thus critical that sufficient information on the actual areas needed to conserve biodiversity and ecosystem services in the long term is collated.

As evidenced by this report, the under-reporting of important area-based conservation measures undermines the ability of decision-makers to fully appreciate and address priorities. Enhancing the completeness and accuracy of the WDPA on protected and conserved areas, and GD-PAME on management effectiveness of the global network of protected and conserved areas, is therefore an essential foundation for setting and tracking targets. Only such an evidence-based agreement will ensure long term persistence of biodiversity and sustainability of natural resources needed to support human well-being. This is therefore a unique opportunity for the global community to recognise the significance of protected and conserved areas for the delivery of the 2050 Vision for Biodiversity.

References

Abell R., Lehner B., Thieme M. and Linke S. 2017. Looking beyond the fenceline: Assessing protection gaps for the world's rivers. *Conservation Letters* 10(4): 384-94.

Baillie J. and Zhang Y.-P. 2018. Space for nature. *Science* 361 (6407): 1051.

Barnes M., Craigie I.D., Harrison L. et al. 2016. Wildlife population trends in protected areas predicted by national socio-economic metrics and body size. *Nature Communications* 7, 12747, 1-9.

Bingham H., Fitzsimons J.A., Redford K.H., Mitchell B.A., Juan Bezaury-Creel J. and Cumming T.L. 2017. Privately protected areas: advances and challenges in guidance, policy and documentation. *PARKS* 23.1.

Borrini-Feyerabend G. et al. 2012. Bio-cultural diversity conserved by indigenous peoples and local communities - Examples and analysis, Cenesta for the ICCA Consortium, IUCN, UNDP GEF SGP and GIZ on behalf of BMZ, Tehran.

Borrini-Feyerabend G., Dudley N., Jaeger T., Lassen B., Pathak Broome N., Phillips A. and Sandwith T. 2013. Governance of Protected Areas: From understanding to action. Best Practice Protected Area Guidelines Series No. 20, Gland, Switzerland.

Brooks T.M., Akçakaya H.R., Burgess N.D., Butchart S.H.M., Hilton-Taylor C., Hoffmann M., Juffe-Bignoli D., Kingston N., MacSharry B., Parr M., Perianin L., Regan E.C., Rodrigues A.S.L., Rondinini C., Shennan-Farpon Y. and Young B.E. 2016 Analysing biodiversity and conservation knowledge products to support regional environmental assessments. *Scientific Data* 3: 160007.

Butchart S.H., Clarke M., Smith R.J., Sykes R.E., Scharlemann J.P., Harfoot M., Buchanan G.M., Angulo A., Balmford A., Bertzky B. and Brooks T.M. 2015. Shortfalls and solutions for meeting national and global conservation area targets. *Conservation Letters* 8(5): 329-37.

CBD. 2018. SBSTTA Recommendation 22/5. Protected areas and other effective area-based conservation measures. CBD/SBSTTA/REC/22/5. 07/07/2018.

CBD Secretariat. 2004. The Ecosystem Approach, (CBD Guidelines). Montreal: Secretariat of the Convention on Biological Diversity. Montreal: Secretariat of the Convention on Biological Diversity.

CBD Secretariat. 2011. Strategic Plan for Biodiversity 2011-2020: Further Information Related to the Technical Rationale for the Aichi Biodiversity Targets, Including Potential Indicators and Milestones. UNEP/CBD/COP/10/INF/12/Rev.1. 14/03/2011.

CBD Secretariat. 2014. Global Biodiversity Outlook 4. Montréal, Canada: CBD.

CBD Secretariat. 2016. Responding to Decision XI/24 welcoming the IUCN World Parks Congress 2014 and inviting the further development of technical guidance towards achieving the full scope of Aichi Biodiversity Target 11. CBD/SBSTTA/20/INF/40. 05/04/2016

CBD Secretariat. 2018a. Updated status of Aichi Biodiversity Target 11. Note by the Executive Secretary. CBD/SBSTTA/22/INF/30. 06/06/2018.

CBD Secretariat. 2018b. Effective use of knowledge in developing the post-2020 global biodiversity framework. CBD/SBSTTA/22/INF/31 and CBD/SBI/2/INF/33. 16/06/2018.

CBD Secretariat. 2018c. Safeguarding space for nature and securing our future: Developing a post-2020 strategy. Note by the Executive Secretary. CBD/SBSTTA/22/INF/36. 27/06/2018.

Coad L., Leverington F., Knights K. et al. 2015. Measuring impact of protected area management interventions: Current and future use of the global database of protected area management effectiveness. *Phil. Trans. R. Soc.* B 370: 20140281.

Corrigan C., Bingham H., Pathak Broome N., Hay-Edie T., Tabanao G. and Kingston N. 2016. Documenting local contributions to earth's biodiversity heritage: the global registry. *PARKS* 22.2.

Davidson N. 2014. How much wetland has the world lost? Long-term and recent trends in global wetland area. *Marine and Freshwater Research* 65: 936-941.

Day J., Dudley N., Hockings M., Holmes G., Laffoley D., Stolton S. and Wells S. 2012. Guidelines for applying the IUCN Protected Area Management Categories to Marine Protected Areas. Gland, Switzerland.

Deguignet M., Arnell A., Juffe-Bignoli D., Shi Y., Bingham H., MacSharry B. et al. 2017. Measuring the extent of overlaps in protected area designations. *PLoS ONE* 12(11): e0188681.

Den Braber B., Evans K.L. and Oldekop J.A. 2018. Impact of protected areas on poverty, extreme poverty, and inequality in Nepal. *Conservation Letters* (in press).

Dinerstein E., Olson D., Joshi A. Vynne C. and Burgess N.D. 2017. An Ecoregion-Based Approach to Protecting Half the Terrestrial Realm. *Bioscience* 67(6): 534-545.

Dudley N. and Stolton S. 2003. Running Pure: he Importance of Forest Protected Areas to Drinking Water. World Bank/WWF Alliance for Forest Conservation and Sustainable Use. WWF, Gland, Switzerland. EarthTrends.

Dudley N., Day J., Laffoley D., Hockings M. and Stolton S. 2017. Defining marine protected areas: A response to Horta e Costa et al. *Marine Policy* 77: 191–192.

Dudley N., Stolton S., Belokurov A., Krueger L., Lopoukhine N., MacKinnon K., Sandwith T. and Sekhran N. (editors). 2010. Natural Solutions: Protected areas helping people cope with climate change, IUCN WCPA, TNC, UNDP, WCS, The World Bank and WWF, Gland, Switzerland, Washington DC and New York, USA.

Dudley, N. (Editor). 2008. Guidelines for Applying Protected Area Management Categories. Gland, Switzerland: IUCN. x + 86pp. With Stolton, S., P. Shadie and N. Dudley. 2013. IUCN WCPA Best Practice Guidance on Recognising Protected Areas and Assigning Management Categories and Governance Types, Best Practice Protected Area Guidelines Series No. 21, Gland, Switzerland: IUCN.

Dudley N., Ali N., Kettunen M. and MacKinnon K. 2017. Editorial essay: Protected areas and the Sustainable Development Goals. *PARKS* 23 (2): 9-12.

Edgar G.J., Stuart-Smith R.D., Willis T.J., Kininmonth S., Baker S.C., Banks S., and Thomson R.J. 2014. Global conservation outcomes depend on marine protected areas with five key features. *Nature* 506 (7487): 216-20.

Ervin J., N. Sekhran, Dinu. A., Gidda S., Vergeichik M. and Mee J. 2010. Protected Areas for the 21st Century: Lessons from UNDP/GEF's Portfolio. New York: UNDP and Montreal: CBD.

Franks P., Martin A. and Schreckenberg K. 2016. From livelihoods to equity for better protected area conservation. IIED, London, United Kingdom.

Franks P., Booker F. and Roe D. 2018. Understanding and assessing equity in protected area conservation: a matter of governance, rights, social impacts and human wellbeing. IIED Issue Paper. IIED, London, United Kingdom.

Gonzales A.M. and Martin A.S. 2007. Gender in the conservation of protected areas. Innovations in Conservation Series. Parks in Peril Program. Arlington, Virginia, USA: The Nature Conservancy.

Gannon P., Seyoum-Edjigu E., Cooper D., Sandwith T., Ferreira de Souza Dias B., Pașca Palmer C., Lang B., Ervin J. and Gidda S. 2017. Status and prospects for achieving Aichi Biodiversity Target 11: Implications of national commitments and priority actions. *PARKS* 23(2): 13-26.

Garcia-Moreno J. et al. 2014 Sustaining Freshwater Biodiversity in the Anthropocene. In: Bhaduri A., Bogardi J., Leentvaar J. and Marx S. (eds). The Global Water System in the Anthropocene. Springer Water. Springer, Cham.

Garnett S.T., Burgess N.D., Fa J.E. et al. 2018. A spatial overview of the global importance of Indigenous lands for conservation. *Nature Sustainability* 1: 369-374.

Geldmann J., Barnes M., Coad L. et al. 2013. Effectiveness of terrestrial protected areas in reducing habitat loss and population declines. *Biol. Conserv.* 161: 230-238.

Geldmann J., Coad L., Barnes M., Craigie I.D., Hockings M., Knights K., Leverington F., Cuadros I.C., Zamora C., Woodley S. and Burgess N.D. 2015. Changes in protected area management effectiveness over time: A global analysis. *Biological Conservation* 191: 692-699.

Gill D.A., Mascia M.B., Ahmadia G.N. et al. 2017. Capacity shortfalls hinder the performance of marine protected areas globally. *Nature* 543: 665-669.

Gray C.L., Hill S.L.L., Newbold T., Hudson L.N., Börger L. et al. 2016. Local biodiversity is higher inside than outside terrestrial protected areas worldwide. *Nat. Commun*. 7, 12306, 1-7.

Horta e Costa B., Claudet J., Franco G., Erzini K., Caro A. and Goncalves E. 2016. A regulation-based classification system for Marine Protected Areas (MPAs). *Marine Policy* 72:192–198.

Hutchison J., Manica A., Swetnam R., Balmford A. and Spalding M. 2014. Predicting Global Patterns in Mangrove Forest Biomass. *Conservation Letters* 7: 233-240.

Hutchison J., Philipp D.P., Claussen J.E., Aburto-Oropeza O., Carrasquilla-Henao M. et al. 2015. Building an expert-judgement-based model of mangrove fisheries. *American Fisheries Society Symposium* 83: 17-42.

IIED (*forthcoming*). Governance assessment for protected areas and other conserved areas: Early experience and results of a multi-stakeholder, self-assessment approach. Eds. Franks P. and Booker F.

IUCN. 2016. A Global Standard for the Identification of Key Biodiversity Areas, Version 1.0. First edition. Gland, Switzerland.

IUCN. 2018. The IUCN Red List of Threatened Species. Version 2018-1. http://www.iucnredlist.org. Downloaded on 13 September 2018.

IUCN World Commission on Protected Areas (WCPA). 2018a. Applying IUCN's Global Conservation Standards to Marine Protected Areas (MPA). Delivering effective conservation action through MPAs, to secure ocean health & sustainable development. Version 1.0. Gland, Switzerland.

IUCN World Commission on Protected Areas (WCPA). 2018b. (*Draft*) Guidelines for Recognising and Reporting Other Effective Area-based Conservation Measures. IUCN, Switzerland. Version 1.

Jones K.R., Venter O., Fuller R.A., Allan J.R., Maxwell S.L., Negret P.J. and Watson J.E.M. 2018a. One-third of global protected land is under intense human pressure. *Science* 360 (6390): 788-791.

Jones K.R., Klein C.J., Halpern B.S., Venter O., Grantham H., Kuempel C.D., Shumway N., Friedlander A.M., Possingham H.P. and Watson J.E.M. 2018b. The Location and Protection Status of Earth's Diminishing Marine Wilderness. *Current Biology* 28 (15): 2506-2512.

Juffe-Bignoli D., Burgess N.D., Bingham H., Belle E.M., De Lima M.G., Deguignet M., Bertzky B., Milam A.N., Martinez-Lopez J., Lewis E. and Eassom A. Protected planet report 2014. UNEP-WCMC: Cambridge, UK. 2014.

Klein C., McKinnon M.C., Wright B.T., Possingham H.P. and Halpern B.S. 2015. Social equity and the probability of success of biodiversity conservation. *Glob. Environ. Change* 35: 299-306.

Knights K., Cuadros I., Zamora C., Coad L., Leverington F. et al. 2014. A preliminary assessment of protected area management within the WWF 'Coastal East Africa' Priority Place, eastern Africa. *PARKS* 20.2: 78-88.

Leisher C., Samberg L.H., Van Buekering P. and Sanjayan M. 2013. Focal areas for measuring the human well-being impacts of a conservation initiative. *Sustainability* 5: 997-1010.

Lewis E., MacSharry B., Juffe-Bignoli D., Harris N., Burrows G., Kingston N. and Burgess N.D. 2018. Dynamics in the global protected-area estate since 2004. *Conservation Biology (in press)*. https://doi.org/10.1111/cobi.13056

Locke H. 2015. Nature needs (At least) half: A necessary new agenda for protected areas. Protecting the Wild: Parks and Wilderness the Foundation for Conservation.

Maron M., Simmonds J.S. and Watson J.E.M. 2018. Bold nature retention targets are essential for the global environment agenda. *Nature Ecology and Evolution* 2(8): 1194-1195.

Mascia M.B., Claus C. A. and Naidoo R. 2010. Impacts of Marine Protected Areas on Fishing Communities. *Conservation Biology* 24: 1424-1429.

Melillo J.M., Lu X., Kicklighter D.W., Reilly J.M., Cai Y. and Sokolov A.P. 2016. Protected areas' role in climate change mitigation. *Ambio* 45: 133-145.

Mittermeier R.A., Robles-Gil P., Hoffmann M., Pilgrim J.D., Brooks T.M., Mittermeier C.G., Lamoreux J.L. and Fonseca G. (eds). 2004. Hotspots revisited: Earth's biologically richest and most endangered ecoregions. Second Edition. Cemex, Mexico.

Millennium Ecosystem Assessment. 2015. Ecosystem Services and Human Well-Being: Wetlands & Water. Synthesis. 2005. World Resources Institute, Washington, DC, USA

Mascia M.B. and Pailler S. 2011. Protected area downgrading, downsizing, and degazettement (PADDD) and its conservation implications. *Conservation Letters* 4: 9-20.

Moreaux C., Zafra-Calvo N., Vansteelant N.G., Wicander S. and Burgess N.D. 2018. Can existing assessment tools be used to track equity in protected area management under Aichi Target 11? *Biological Conservation* 224, 242-247.

Mulongoy K.J. and Gidda S.B. 2008. The Value of Nature: Ecological, Economic, Cultural and Social Benefits of Protected Areas Secretariat of the Convention on Biological Diversity. Montreal, Canada.

Ojwang' G.O., Wargute P.W., Said M.Y., Worden J.S., Davidson Z., Muruthi P., Kanga E., Ihwagi F. and Okita-Ouma B. 2017. Wildlife Migratory Corridors and Dispersal Areas: Kenya Rangelands and Coastal Terrestrial Ecosystems.

Oldekop J., Holmes G., Harris W. and Evans K. 2016. A global assessment of the social and conservation outcomes of protected areas. *Conserv. Biol.* 30, 133-141.

Olson D.M., Dinerstein E., Wikramanayake E.D. et al. 2001. Terrestrial ecoregions of the world: A new map of life on earth. *Bioscience* 51: 933-938.

Reis V., Hermoso V., Hamilton S.K., Ward D., Fluet-Chouinard E., Lehner B. and Linke S.A. 2017. Global assessment of inland wetland conservation status. *Bioscience* 67(6): 523-33.

Rodrigues A.S., Andelman S.J., Bakarr M.I., Boitani L., Brooks T.M., Cowling R.M., Fishpool L.D., da Fonseca G.A., Gaston K.J., Hoffmann M. and Long J.S. 2004. Effectiveness of the global protected area network in representing species diversity. *Nature* 428(6983): 640.

Sala E., Lubchenco J., Grorud-Colvert K., Novelli C., Roberts C. and Rashid Sumailae U. 2018. Assessing real progress towards effective ocean protection. *Marine Policy* 91: 11-13.

Saura S., Bertzky B., Bastin L., Battistella L., Mandrici A. and Dubois G. 2018. Protected area connectivity: Shortfalls in global targets and country-level priorities. *Biological Conservation* 219: 53-67.

Spalding M., Burke L., Wood S.A., Ashpole J. and Hutchison J. 2017. Mapping the global value and distribution of coral reef tourism. *Marine Policy* 82: 104-113.

Spenceley A., Kohl J., McArthur S., Myles P., Notarianni M., Paleczny D. et al. 2015. Visitor management. In: Worboys G.L., Lockwood M., Kothari A., Feary S. and Pulsford I., editors. Protected Areas Governance and Management. Canberra, Australia: ANU Press, pp. 715–750.

Schreckenberg K., Franks P., Martin A. and Lang B. 2016. Unpacking equity for protected area conservation. *Parks* 22.2: 11-26.

Spalding M.D., Fox H.E., Allen G.R. et al. 2007. Marine Ecoregions of the world: A bioregionalization of coastal and shelf areas. *Bioscience* 57: 573-583.

Spalding M.D., Agostini V.N., Rice J. and Grant S.M. 2012. Pelagic provinces of the world: A biogeographic classification of the world's surface pelagic waters. *Ocean Coast Management* 60: 19-30.

Tucker M.A., Böhning-Gaese K., Fagan W.F. et al. 2018. Moving in the Anthropocene: Global reductions in terrestrial mammalian movements. *Science* 359(6374): 466-469.

UNDP. 2016. National Biodiversity Strategies and Action Plans: Natural Catalysts for Accelerating Action on Sustainable Development Goals. Interim Report. United Nations Development Programme. New York.

UNEP-WCMC. 2018. United Nations List of Protected Areas. Supplement on protected area management effectiveness. UNEP-WCMC: Cambridge, UK.

UNEP-WCMC and IUCN. 2016. Protected Planet Report 2016. UNEP-WCMC and IUCN: Cambridge UK and Gland, Switzerland.

UNEP-WCMC and IUCN. 2018a. Protected Planet: The World Database on Protected Areas (WDPA), July 2018 version, Cambridge, UK: UNEP-WCMC and IUCN. Available at: www.protectedplanet.net.

UNEP-WCMC and IUCN. 2018b. Protected Planet: The Global Database on Protected Areas Management Effectiveness (GD-PAME), July 2018 version, Cambridge, UK: UNEP-WCMC and IUCN. Available at: www.protectedplanet.net.

Venter O., Sanderson E.W.4, Magrach A., Allan J.R., Beher J., Jones K.R., Possingham H.P., Laurance W.F., Wood P., Fekete B.M., Levy M.A. and Watson J.E. 2016. Sixteen years of change in the global terrestrial human footprint and implications for biodiversity conservation. *Nat. Commun*. 7: 12558.

Walcott J., Thorley J., Kapos V., Miles L., Woroniecki S. and Blaney R. 2015. Mapping multiple benefits of REDD+ in Paraguay: using spatial information to support land-use planning. Cambridge, UK: UNEP-WCMC.

Watson J.E.M., Jones K.R., Fuller R.A., Di Marco M., Segan D.B., Butchart S.H.M., Allan J.R., McDonald-Madden E. and Venter O. 2016a. Persistent Disparities between Recent Rates of Habitat Conversion and Protection and Implications for Future Global Conservation Targets. *Conservation Letters* 9(6): 413-421.

Watson J.E.M., Shanahan D.F., Di Marco M., Allan J., Laurance W.F., Sanderson E.W., Mackey B. and Venter O. 2016b. Catastrophic Declines in Wilderness Areas Undermine Global Environment Targets. *Current Biology* 26 (21): 2929-2934.

Wilson E. O. 2016. Half-earth: Our planet's fight for life (First edition). New York: Liveright Publishing Corporation, a division of W.W. Norton & Company.

Worboys G. L., Francis W. L. and Lockwood M. 2010. Connectivity Conservation Management: A Global Guide. Earthscan.

Worboys G.L., Ament, R., Day J.C., Lausche B., Locke H., McClure M., Peterson C.H., Pittock J., Tabor G. and Woodley S. (Editors). 2016. Advanced Draft, Area of Connectivity Conservation Guidelines. IUCN, Gland, Switzerland.

Zafra-Calvo N., Pascual U., Brockington D., Coolsaet B., Cortes-Vazquez J.A., Gross-Camp N., Palomo, I. and Burgess N.D. 2017. Towards an indicator system to assess equitable management in protected areas. *Biological Conservation* 211: 134-141.

Zafra-Calvo N., Garmendia E., Pascual U., Palomo I., Gross-Camp N., Brockington D., Cortes-Vazquez J., Collsaet B. and Burgess N.D. 2018. Progress towards Equitably Managed Protected Areas in Aichi Target 11: A global survey. *BioScience: In press.*

Protected Planet Report 2018:
Tracking progress towards global targets for protected areas

Supported by:

Ympäristöministeriö
Miljöministeriet
Ministry of the Environment

In collaboration with:

Convention on
Biological Diversity

Partnership for
nature and people

European Environment Agency

ISBN No: 978-92-807-3721-9
Job No: DEP/2203/CA