

A Comprehensive Overview of Global Biodiversity Finance

POLICY PERSPECTIVES

A Comprehensive Overview of Global Biodiversity Finance

Final report, April, 2020

Prepared by the Organisation for Economic Cooperation and Development (OECD)

Disclaimers

This paper is published under the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of OECD member countries.

This document, as well as any data and any map included herein, are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

© OECD (2020)

You can copy, download or print OECD content for your own use, and you can include excerpts from OECD publications, databases and multimedia products in your own documents, presentations, blogs, websites and teaching materials, provided that suitable acknowledgment of OECD as source and copyright owner is given. All requests for commercial use and translation rights should be submitted to rights@oecd.org.

Acknowledgements

This document presents the final version of the report “A Comprehensive Overview of Global Biodiversity Finance”.

An interim version of this report “A Comprehensive Overview of Global Biodiversity Finance: Initial Results” (which was circulated to WPBWE delegates and declassified by EPOC in December 2019), was released in January 2020, so as to inform discussions at the CBD Thematic Workshop on Resource Mobilisation for the Post-2020 Global Biodiversity Framework, which took place on 14-16 January, 2020 in Berlin, Germany. For this final version, additional data for domestic public expenditure and private expenditure have been included, and the methodology further refined.

This document has been prepared by Edward Perry and Katia Karousakis. The authors gratefully acknowledge feedback and comments on earlier versions of this report from OECD colleagues, namely, Geraldine Ang, Simon Buckle, Raphael Jachnik, Nicolina Lamhauge, Mireille Martini, Mauro Migotto, Dirk Röttgers, Aayush Tandon and Will Symes (ENV); Tomas Hos and Cécile Sangare (DCD); and Claire Delpéuch and Dimitris Diakosavvas (TAD); as well from delegates of the OECD Working Party on Biodiversity, Water and Ecosystems (WPBWE). The authors would also like to thank the GEF Secretariat for data provided on the private finance leveraged by GEF funding, for this report.

The OECD Secretariat would like to gratefully acknowledge voluntary contributions from France and Norway to undertake this work.

Executive Summary

Implementing an effective post-2020 global biodiversity framework will demand ambitious and widespread use of biodiversity policy instruments, and other measures, to promote sustainable patterns of production and consumption. It will also require governments and the private sector to scale up biodiversity finance and reduce finance flows that harm biodiversity. While it is clear that biodiversity finance must be increased, little information has been available on recent biodiversity expenditure. Building on OECD's 2019 report to the G7 Environment Ministers on "Biodiversity: Finance and the Business and Economic Case for Action", which included a preliminary update on global biodiversity finance flows, this report aims to address this information gap by providing a more comprehensive overview and an aggregate estimate of global biodiversity finance. The report also provides an overview of government support potentially harmful to biodiversity, and offers recommendations for improving the assessment, tracking and reporting of biodiversity finance.

Based on currently available data, global biodiversity finance is estimated at USD 78 - 91 billion per year (2015-2017 average). This estimate comprises:

- Public domestic expenditure: USD 67.8 billion per year
- International public expenditure: USD 3.9 - 9.3 billion per year
- Private expenditure on biodiversity: USD 6.6 - 13.6 billion per year.

Meanwhile, governments spend approximately USD 500 billion per year in support that is potentially harmful to biodiversity i.e. five to six times more than total spending for biodiversity. The total volume of finance flows that are harmful to biodiversity (i.e. encompassing all public and private expenditure) is likely to be many times larger.

Various initiatives are underway to improve the assessment, tracking and reporting of biodiversity finance flows. Nevertheless, data gaps and inconsistencies persist. To address this challenge, the report provides five key recommendations:

- Improve the consistency and transparency of the data reported to the Convention on Biological Diversity (CBD) by adapting the financial reporting framework to request further granularity. Specifically, the template of the CBD financial reporting framework could be adapted to encourage countries to:
 - Report quantitative data on biodiversity expenditure by individual category (e.g. government budgets, private, NGO), rather than reporting only the total amount.
 - Provide supplementary information on methods used to estimate finance flows, by category.
 - Distinguish between expenditure allocated to promote the conservation and sustainable use of ocean/marine biodiversity (SDG 14) and terrestrial biodiversity (SDG 15).
- Develop and agree on an internationally harmonised approach for assessing and tracking public biodiversity finance, building on existing frameworks and classification systems.
- Establish a common framework to assess and track private finance for biodiversity, drawing lessons from OECD's Research Collaborative on Tracking Finance for Climate Action.
- Increase national-level efforts to identify, assess and track public expenditure harmful to biodiversity, including biodiversity-harmful subsidies.
- Develop guidance and adopt measures to evaluate the effectiveness of biodiversity finance flows, and related policy instruments.

Table of contents

Acknowledgements	2
Executive Summary	3
1 Introduction: Biodiversity finance and the international context	6
2 Key findings on global biodiversity finance	7
2.1 Towards a comprehensive overview of global biodiversity finance	7
2.2 An estimate of global biodiversity finance flows	8
2.3 Finance flows potentially harmful to biodiversity	13
2.4 Assessing, tracking and reporting biodiversity finance: overview and recommendations	14
3 Data sources and methods	17
3.1 Public finance: domestic flows	17
3.2 Public finance: international flows	22
3.3 Private finance flows	24
References	30
Annex A. Domestic public expenditure data	34
Annex B. Biodiversity-related development finance data for recent years	37
Tables	
Table 2.1. International public biodiversity finance: bilateral and multilateral flows (annual, 2015-2017 average, USD millions)	10
Table 2.2. Estimates of private sector finance (annual, USD millions)	11
Table 3.1. CBD financial reports: information on sources and categories provided by countries for domestic expenditure	18
Table 3.2. Domestic public finance on biodiversity: Country coverage of CBD, BIOFIN and COFOG datasets by year	19
Table 3.3. Public domestic expenditure: data coverage of country groupings	21
Table 3.4. Biodiversity-related funding from philanthropic foundations in 2017	25
Table 3.5. Private finance for biodiversity mobilised by the GEF, 2015-2017	28
Table A A.1. Domestic public expenditure data: country coverage 2015-2017	34
Table A B.1. Allocable bilateral biodiversity-related ODA 2014-2017	37
Table A B.2. Bilateral biodiversity-related OOF 2014-2017	37
Table A B.3. Multilateral biodiversity-related ODA 2014-2017	38

Table A B.4. Multilateral biodiversity-related concessional flows 2014-2017	38
---	----

Figures

Figure 2.1. The biodiversity finance landscape	8
Figure 2.2. Agricultural producers support in OECD countries, 1990-2018	14
Figure 3.1. Private finance mobilised by DAC countries' official development finance interventions, 2018	27

Boxes

Box 2.1. Other data on finance flows for biodiversity	12
Box 3.1. Key terms for biodiversity-related development finance	22

1 Introduction: Biodiversity finance and the international context

1. The 15th Conference of the Parties to the Convention on Biological Diversity (CBD COP15), due to take place in 2020, is a critical juncture for addressing biodiversity loss. It is crucial that COP15 produces an ambitious post-2020 global biodiversity framework, with specific and measurable targets, to help drive the transformative changes needed to halt and reverse the loss of biodiversity and ecosystem services.

2. Implementing an effective post-2020 framework will demand ambitious and widespread use of biodiversity policy instruments, and other measures, to promote sustainable patterns of production and consumption. It will also require governments and the private sector to scale up biodiversity finance and to reduce the finance flows that harm biodiversity. While it is clear that biodiversity finance must be increased, for example, to improve the coverage and effectiveness of protected area networks, to restore degraded ecosystems, and to mainstream biodiversity across all economic sectors, little information has been available on recent biodiversity expenditure. Global biodiversity finance was estimated to be USD 52 billion in 2010 (Parker et al., 2012^[1]), however the data underpinning this estimate are now more than a decade old.

3. In part to address this, the OECD in 2019 provided a preliminary update on global biodiversity finance in its report “Biodiversity: Finance and the Economic and Business Case for Action” (OECD, 2019^[2]). This report was prepared at the request of the French G7 Presidency to inform the G7 Environment Ministers’ Meeting, on May 5-6, 2019. The report estimated domestic (predominantly public) expenditure on biodiversity to be USD 49 billion in 2015, based on data reported by countries through the CBD Financial Reporting Framework. Based on other data available at the time, other flows of biodiversity finance (such as Official Development Assistance and private sector finance channelled through biodiversity offsets and philanthropic foundations) were estimated to be USD 39 billion per year. These two estimates were not combined due to some possible overlap of datasets, potentially leading to double counting.

4. Up-to-date estimates of biodiversity finance flows are needed to establish a baseline from which governments and other stakeholders can track biodiversity finance trends over time. They are also useful for identifying and assessing any shortfalls in biodiversity finance¹, and for identifying opportunities for scaling up finance in support of biodiversity objectives. Building on the preliminary finance estimates in OECD (2019^[2]), this analysis provides a more comprehensive overview and an aggregate estimate of global biodiversity finance flows by drawing on additional data and further analysis. The paper also provides an overview of government support that may be harmful to biodiversity, and highlights opportunities for improving the assessment, tracking and reporting of biodiversity finance.

¹ Quantifying the finance gap requires an estimate of current biodiversity finance, and also an assessment of biodiversity finance needs. In CBD Decision 14/22, Parties requested the Executive Secretary to establish an expert panel to “estimate the resources from all sources needed for different scenarios of the implementation of the post-2020 framework”, among other things (CBD COP14, 2018^[49]).

2 Key findings on global biodiversity finance

2.1 Towards a comprehensive overview of global biodiversity finance

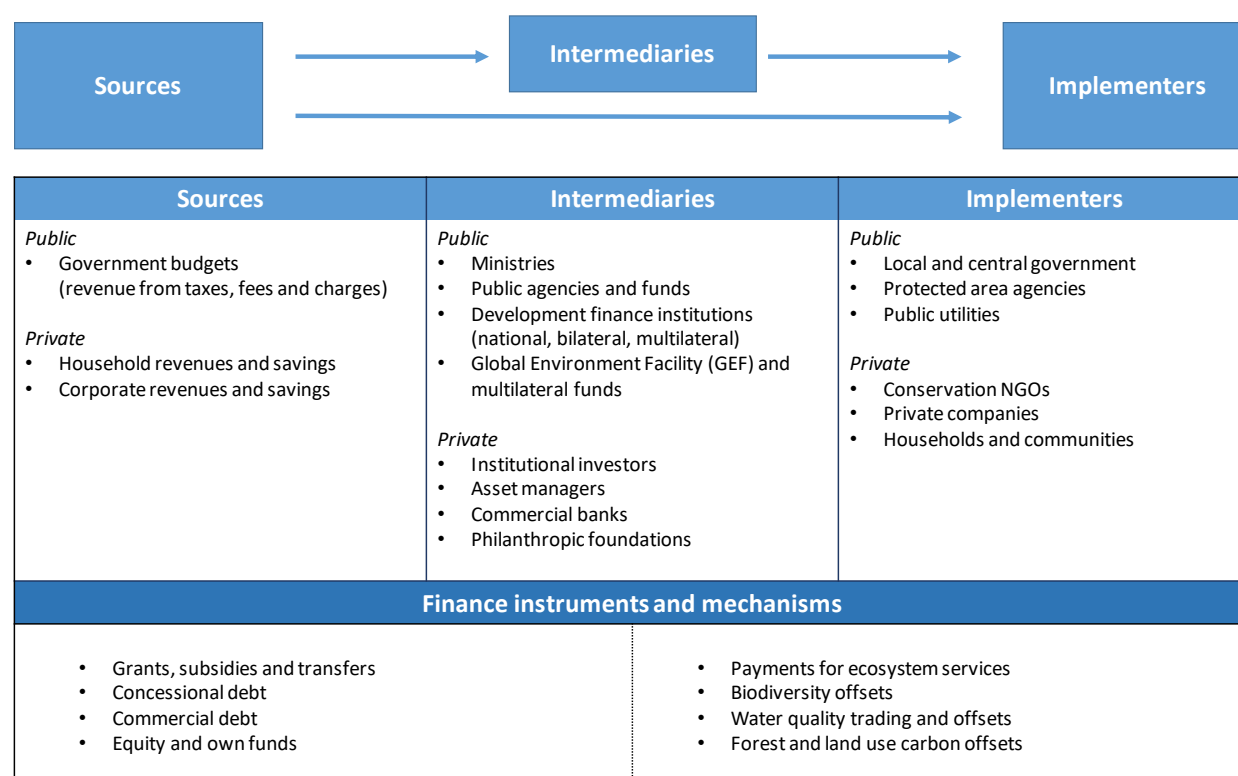
5. Biodiversity finance in this paper refers to expenditure that contributes – or intends to contribute – to the conservation, sustainable use and restoration of biodiversity. Biodiversity finance stems from both public and private sources, and may be channelled through intermediaries such as public finance institutions and private asset owners and managers. It can be mobilised and delivered through various finance instruments and mechanisms, domestically and internationally (see Figure 2.1).

6. Ideally, an estimate of biodiversity finance would be based on a common point of measurement (e.g. at the point of implementation in Figure 2.1). However, due to data limitations, this analysis compiles information on finance flows at different points of the financial value chain, while taking steps to minimise the potential for double counting.

7. To be comprehensive, an estimate of global biodiversity finance should cover:

- Biodiversity finance flows from all actors, public (e.g. national and local government, regional bodies and institutions [e.g. EU] and public financial institutions) and private (e.g. philanthropic foundations, corporations, small and medium size enterprises, households, institutional investors);
- Domestic (e.g. government budget allocation, expenditures of households and local enterprises) and international flows (e.g. international development finance, foreign direct investment);
- Biodiversity finance flows from all relevant economic sectors (e.g. agriculture, fisheries, tourism, forestry); and
- Finance flows where improving the state of biodiversity is a primary objective, a secondary objective, or a co-benefit.

Figure 2.1. The biodiversity finance landscape



Source: Adapted from (Hainaut et al., 2018^[3]), Landscape of climate finance in France, low-carbon investment 2011-2017, IC4E – Institute for Climate Economics.

2.2 An estimate of global biodiversity finance flows

8. Based on currently available data, global biodiversity finance from all sources is estimated to be between USD 78 and 91 billion per year.² The estimate comprises average annual public expenditure between 2015 and 2017, and the most recent data available on private expenditure over the same period. The public component covers domestic spending by 81 countries, and bilateral and multilateral development finance from official donors. The private component is based on diverse sources of expenditure data covering philanthropic foundations, private companies, asset managers, individuals and communities, and is considered a conservative estimate. The lower and upper range of global biodiversity finance flows reflect methodological approaches, which are discussed below. This estimate of global biodiversity finance is equivalent to about 0.1% of global GDP.

2.2.1 Public domestic finance for biodiversity

9. Domestic public expenditure accounts for the majority of biodiversity spending. Between 2015 and 2017, 81 countries collectively spent an average of USD 67.8 billion per year domestically on the conservation and sustainable use of biodiversity.³ The estimate is based predominantly on data from the CBD financial reporting framework, Classifications of the Functions of Government (COFOG)⁴ and

² While this is notably higher than the Parker et al. (2012^[1]) estimate of biodiversity finance in 2010, the two numbers cannot be directly compared due to differences in methodology and the increasing (albeit still incomplete) availability of biodiversity expenditure data.

³ The People's Republic of China accounts for more than one third of this estimate.

⁴ COFOG was developed in 1999 by the OECD and published by the UN Statistical Division as a standard for classifying the purposes (functions) of government activities.

biodiversity expenditure reviews conducted through UNDP's Biodiversity Finance Initiative (BIOFIN) (see section 3 for further details). It encompasses expenditure from most of the world's largest economies (75% of the Group of Twenty Nations [G20] and 95% of OECD countries, by number). The estimate of public domestic finance includes both direct and indirect flows for approximately 25 countries and direct flows (only) for the remaining countries.⁵ However, not all countries reporting to the CBD provided sufficient information to determine with certainty whether reported expenditures are direct or indirect, and how they have differentiated between direct and indirect flows.

10. According to COFOG, which provides an internationally standardised approach to classify government expenditure, 48 mostly developed countries collectively spent USD 15.8 billion per year on average between 2015 and 2017 with the primary purpose of "biodiversity and landscape protection" (i.e. direct biodiversity finance flows)^{6,7}. This equates to 0.1% of the combined annual total government expenditure of these countries. Countries' expenditure on biodiversity and landscape protection ranged from <0.001% to 0.6% of total annual government expenditure.

11. During the period 2015-2017, the European Union (EU) spent approximately USD 14.5 billion per year on biodiversity, within the EU and internationally. This estimate covers direct and indirect biodiversity expenditure across twelve programmes⁸ (European Commission, 2018_[4]). These data are not included in the estimate of public finance for biodiversity, however, due to the potentially large overlap with biodiversity expenditures reported by EU member countries or the expenditure included in the public international finance estimate below.

2.2.2 Public international finance for biodiversity

12. International public expenditure on biodiversity is estimated at USD 3.9-9.3 billion per year, with a mid-range estimate of USD 6.1 billion.⁹ This estimate covers bilateral and multilateral Official Development Assistance (ODA) and non-concessional flows reported to OECD's Creditor Reporting System (CRS) (Table 2.1). The lower limit estimate counts "principal" flows only, while the upper limit is the sum of "principal" and "significant" flows.¹⁰ The mid-range estimate applies a coefficient of 40% to the flows marked as significant, which is consistent with the approach taken by many donor countries in their CBD financial reports.¹¹ A coefficient is applied because the Rio marker data applies to the entire activity reported by the provider, not the finance associated with the biodiversity-specific component of that activity.

13. The majority of biodiversity-related development finance targets terrestrial and freshwater biodiversity; only a small fraction is allocated to the conservation and sustainable use of marine (ocean) biodiversity. An estimated USD 360 million of bilateral ODA targets marine biodiversity each year as a principal or significant objective, equivalent to 4% of total allocable bilateral biodiversity-related ODA.

⁵ Direct flows refer here to flows with biodiversity as their primary objective. Indirect flows refer to flows with biodiversity as a secondary objective. Over-counting occurs when countries count 100% of indirect flows, rather than the biodiversity-specific component of these flows (see section 3 for details).

⁶ Note that COFOG data on biodiversity expenditure covers biodiversity and landscape protection activities, but not resource management (e.g. sustainable use of forest resources).

⁷ This estimate may include some international spending, depending on how countries classified their expenditure. See section 3 for further information.

⁸ European Earth Observation Programme (Copernicus), Horizon 2020 – The Framework Programme for Research and Innovation, European Regional Development Fund, Cohesion Fund, European Agricultural Guarantee Fund, European Agricultural Fund for Rural Development, European Maritime and Fisheries Fund, Programme for the Environment and Climate Action, Instrument for Pre-accession Assistance, European Neighbourhood Instrument, Development Cooperation Instrument, Partnership instrument for cooperation with third countries.

⁹ The potential overlap between reported domestic biodiversity expenditure by developing countries and reported ODA from official providers was accounted for in the overall estimate of global biodiversity finance (see Section 3 for details).

¹⁰ Activities scored "principal" are funded specifically for that policy objective; activities scored "significant" have other primary objectives, but have been formulated or adjusted to help meet biodiversity objectives.

¹¹ Of the 20 countries that have reported biodiversity-related ODA to the CBD using the Rio Marker methodology, nine applied a coefficient of 40% to "significant" flows. Four countries reported the sum total of "principal" and "significant" flows, three reported only "principal" flows, two applied a coefficient of 50%, one applied a range of coefficients from 10-50% for "significant" and 50-100% for "principal", and two did not specify.

Multilateral ODA targeting marine biodiversity as a principal or significant objective is estimated at USD 63 million per year, which is approximately 9% of multilateral biodiversity-related ODA reported to OECD's CRS.¹²

Table 2.1. International public biodiversity finance: bilateral and multilateral flows (annual, 2015-2017 average, USD millions)

Commitments, current prices. Data reported to the Creditor Reporting System (CRS)

	Lower limit (Principal)	Mid-range estimate (Principal + 40% Significant)	Upper limit (Principal + Significant)
Bilateral			
Biodiversity-related allocable bilateral ODA (% of total allocable bilateral ODA)	USD 3 535 million (3%)	USD 5 474 million (4%)	USD 8 383 million (7%)
Biodiversity-related other official flows	USD 6 million	USD 13 million	USD 24 million
Bilateral total	USD 3 541 million	USD 5 487 million	USD 8 407 million
Multilateral			
Biodiversity-related multilateral ODA	USD 321 million	USD 482 million	USD 724 million
Biodiversity-related multilateral non-concessional outflows	USD 6 million	USD 83 million	USD 198 million
Multilateral total	USD 327 million	USD 565 million	USD 922 million
Total bilateral and multilateral	USD 3 867 million	USD 6 052 million	USD 9 329 million

Note: Bilateral estimates cover Development Assistance Committee (DAC) members (including EU Institutions) and other official providers that reported biodiversity-related activities to the CRS. Multilateral estimates include reporting from the Global Environment Facility, Inter-American Development Bank, United Nations Development Programme and the World Bank Group. Reporting on biodiversity-related activities by multilateral agencies is not yet comprehensive or consistent across years. See section 3 for an overview of the CRS data.

Source: OECD (2020^[5]), Creditor Reporting System, accessed 31 March 2020.

2.2.3 Private finance for biodiversity

14. To deliver on biodiversity targets, it will also be necessary to mobilise private sector finance. Many business and financial organisations both depend on and in turn impact biodiversity (OECD, 2019^[2]). Furthermore, in most countries, private businesses and households own or lease large areas of land. The private sector, therefore, has a fundamental role in managing and financing biodiversity.

15. The private sector spends an estimated USD 6.6-13.6 billion per year for biodiversity. This estimate is derived from different sources of data for the period 2015-2017 on biodiversity offsets, sustainable commodities, forest carbon finance, payments for ecosystem services, water quality trading and offsets, philanthropic spending, private contributions to conservation non-governmental organisations (NGOs), and private finance leveraged by bilateral and multilateral public development finance (Table 2.2). Given that data on biodiversity expenditure are not readily available for all households, corporations and financial organisations and only partially cover some sectors (e.g. agriculture), the estimate is conservative.

16. While additional data exist on biodiversity finance (see Box 2.1 for selected examples), these were not included in the estimates of biodiversity finance presented above to avoid potential double counting. The data are, nevertheless, informative when considering opportunities for scaling up and delivering biodiversity finance.

¹² Multilateral development banks do not report biodiversity-related development finance systematically and comprehensively to the CRS. This may therefore be an underestimate.

Table 2.2. Estimates of private sector finance (annual, USD millions)

	Amount	Year	Comments	Source
Biodiversity offsets	USD 2 600 – 7 300 million	2016	There is potentially a small overlap with public expenditure data (see section 3).	(Bennett, Gallant and Ten Kate, 2017 ^[6])
Sustainable commodities	USD 2 300 – 2 800 million	2016	Covers FSC and PEFC certified forests, which account for the majority of agriculture and forestry land under sustainable certification.	Authors' estimate based on (Breukink et al., 2015 ^[7]); (FAO, 2018 ^[8]); (Levin, 2012 ^[9]).
Conservation NGOs	USD 1 200 – 2 300 million	2017	Covers five of the world's largest biodiversity conservation NGOs, which each receive significant corporate and individual (e.g. members and donors) contributions: Conservation International, Royal Society for the Protection of Birds, The Nature Conservancy, the Wildlife Conservation Society, and the World Wide Fund for Nature. Revenues from the public sector and philanthropic foundations were subtracted from the lower limit estimate to avoid double counting.	Authors' estimate based on (Conservation International and Affiliates, 2017 ^[10]); (RSPB, 2017 ^[11]); (The Nature Conservancy, 2017 ^[12]); (WCS, 2017 ^[13]); and (WWF International, 2017 ^[14])
Philanthropic foundations	USD 222 – 380 million	2017	Expenditure from 14 out of 26 philanthropic foundations that reported to the OECD. Activities reported by the other foundations did not include a biodiversity component. Lower limit counts only projects where biodiversity is the principal objective.	Authors' estimate based on (OECD, 2020 ^[5]), Creditor Reporting System
Private finance mobilised by Development Assistance Committee (DAC) countries' official development finance interventions	USD 200 – 510 million	2018 (proxy for 2017)	Covers private finance mobilised by activities of DAC countries' development finance institutions, development banks and other agencies working on development (i.e. bilateral flows). Lower limit counts only projects where biodiversity is the principal objective. Coverage of the dataset is improving.	(OECD, 2020 ^[5]), Creditor Reporting System, OECD data collections on amounts mobilised
Private finance leveraged by the GEF	USD 41 – 155 million	Annual average 2015-2017	Covers co-finance leveraged by GEF from for-profits and beneficiaries (communities and individuals). Co-financing from civil society organisations and philanthropies is not included due to overlap with other datasets. Lower limit captures only Biodiversity-Focal Area Projects. Upper limit also includes Multi-Focal Area Projects with a biodiversity component.	Based on projects approved in 2015-2017, data from GEF Portal (accessed 2020)
Forest and land use carbon finance	USD 30 – 116 million	2016	Based on carbon market transactions. Lower limit counts only Verified Carbon Standard (VCS) + Climate, Community and Biodiversity Alliance (CCBA) certified projects in voluntary market. Upper limit counts all transactions in voluntary and compliance market.	(Forest Trends' Ecosystem Marketplace, 2019 ^[15]) and (Hamrick and Gallant, 2017 ^[16])
Payments for ecosystem services (watersheds)	USD 15 million	2016	Specifically private sector payments for watershed services. Total payments are much larger but come mostly from the public sector.	(Bennett and Ruef, 2016 ^[17])
Water quality trading and offsets	USD 32 million	2016	Assumption made that majority is private sector finance.	(Bennett and Ruef, 2016 ^[17])

Note: This table presents only the data that have been aggregated to estimate overall finance flows. It is not an exhaustive list of data on private finance for biodiversity. For example, it does not include data on green bonds relevant to biodiversity, due to a high risk of double counting.

Box 2.1. Other data on finance flows for biodiversity

Economic instruments

Economic instruments (the “positive incentives” under Aichi target 3) provide price signals to producers and consumers to behave in a more environmentally sustainable way. They deliver incentives to achieve objectives more cost-effectively, and most can also mobilise finance and/or generate revenue. Currently 110 countries report qualitative and quantitative information on their use of policy instruments to the OECD Policy Instruments for the Environment (PINE) database. Data reported to PINE indicate that biodiversity-relevant taxes generated USD 7.7 billion in revenue per year (2016-2018 average). Some of the revenue generated may also be earmarked for biodiversity. Biodiversity-relevant fees and charges generated USD 1.2 billion in revenue per year (2015-2017 average), though these data are not yet reported comprehensively by countries.

Green bonds

Green bonds are bonds issued by governments, banks, municipalities, corporations and other actors to finance projects with environmental benefits. The market for labelled green bonds¹ has grown rapidly in recent years: in 2019, over USD 200 billion green bonds and loans were issued compared to just USD 42 billion in 2015 (Climate Bonds Initiative, 2019^[18]) (Climate Bond Initiative, 2017^[19]). At least USD 4-5 billion of labelled green bonds have been issued to finance projects related to sustainable land use (Climate Bonds Initiative, 2018^[20]), which may deliver biodiversity benefits. Bonds designed to finance sustainable marine and fisheries projects (a type of “blue bond”) are gaining increasing attention. The first sovereign blue bond was issued in 2018 by the Republic of Seychelles, and raised USD 15 million (Climate Bonds Initiative, 2019^[21]).

Impact investing

Impact investments are “investments that seek to create positive, measurable social and environmental impact alongside a financial return” (Mudaliar et al., 2019^[22]). The global impact investing industry has an estimated USD 502 billion in assets under management (Mudaliar and Dithrich, 2019^[23]). According to the Global Impact Investing Network’s Annual Impact Investor Survey 2019, 4% (USD 9.5 billion) of the USD 239 billion managed by 266 leading impact investors in 2018 was allocated to forestry investments. Overall impact investment from these 226 investors was USD 33 billion in 2018 (Mudaliar et al., 2019^[22]), however it is unknown how much of this was for forestry and whether forestry investments had an explicit focus on biodiversity benefits rather than other environmental (e.g. climate mitigation) and social benefits.

Blended finance

Blended finance is the strategic use of public finance for the mobilisation of additional finance towards sustainable development in developing countries (OECD, 2019^[24]). Convergence (2019^[25]) estimates that blended finance structures channelled a total of USD 3.1 billion to biodiversity from 2000-2018.² From the underlying data this paper estimates that less than USD 440 million went to ocean-related activities. Note that green bonds, impact investing and blended finance are not mutually exclusive categories.

Note: 1. The green bond label can be applied to any debt format, including private placement, securitisation, covered bond, and sukuk, as well as labelled green loans which comply with the Green Bond Principles (GBP) or the Green Loan Principles (GLP) (Climate Bonds Initiative, 2019^[26]). 2. Convergence defines blended finance as “the use of catalytic capital from public or philanthropic sources to increase private sector investment in sustainable development” (Convergence, 2019^[27]).

2.3 Finance flows potentially harmful to biodiversity

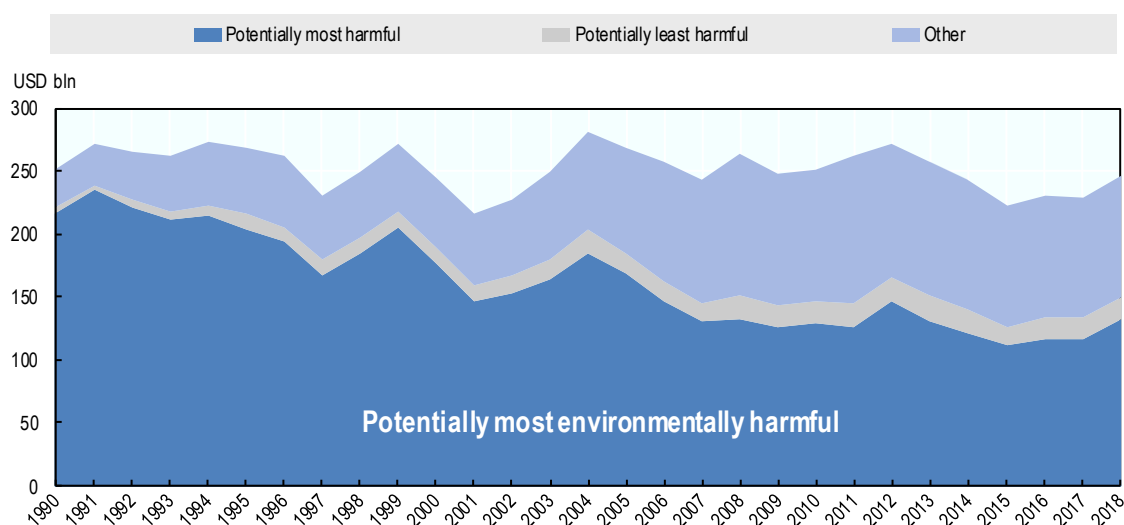
17. Reforming policies that direct finance flows to activities that are harmful to biodiversity is also very important. Governments spend approximately USD 500 billion per year in support that is potentially harmful to biodiversity (OECD, 2019^[21]), i.e. five to six times more than total spending for biodiversity. Other public expenditure, such as public procurement spending, may also support or incentivise activities harmful to biodiversity. Even if finance flows harmful to biodiversity were not redirected towards the conservation and sustainable use of biodiversity, scaling back government support and other public and private expenditure that harm biodiversity, would serve to reduce biodiversity finance needs in the long-term by reducing pressure on biodiversity. Biodiversity mainstreaming and resource mobilisation are therefore two interconnected and complementary agendas under the CBD.

18. Fossil fuel support is among the largest flows of public finance potentially harmful to biodiversity. Fossil fuel support can incentivise the use and production of fossil fuels, thereby contributing to climate change – the third largest direct driver of global biodiversity loss (Diaz et al., 2019^[28]). In 2017, 76 predominantly OECD and G20 economies spent USD 340 billion in fossil fuel support. While fossil fuel support declined between 2013 and 2016, this progress has shown signs of slowing with fossil fuel support increasing by 5% in 2017 compared to 2016 (OECD/IEA, 2019^[29]).

19. Government support to agriculture can also be harmful to biodiversity. Support based on prices and output levels tends to be the most environmentally harmful, as it encourages intensification of production, which entails higher levels of fertiliser and pesticide use. On the other hand, payments based on non-commodity criteria (e.g. the provision of trees and hedges), and payments for input use linked to environmental constraints, may be beneficial if they are designed to help reduce agricultural pressures on biodiversity (OECD, 2013^[30]). While some countries have taken steps to decouple agriculture support from output and price levels, other countries have not yet begun to address the problem. In 2017, OECD countries alone provided USD 228 billion in support to farmers, of which USD 116 billion (i.e. 51%) is considered potentially most environmentally harmful compared to other types of support (OECD, 2013^[30]). While the percentage of overall support to farmers identified as potentially most environmentally harmful has declined considerably since 1990, it has remained relatively constant over the past decade (Figure 2.2).

20. Government support to other sectors, such as fisheries and mining, may also be harmful to biodiversity. Fisheries support, for example, can be harmful if it creates incentives to fish beyond sustainable limits or in a way that negatively impacts threatened species and habitats. In 2017, the 27 OECD countries that report data to OECD's Fisheries Support Estimate database provided USD 700 million of direct support to individuals or companies in fisheries. About 40% of these transfers were directed at lowering the cost of inputs, e.g. through subsidies for vessel construction or modernisation, or through policies that lower the cost of fuel. OECD work has shown that such policies are among the most likely to provoke overfishing, overcapacity, and illegal, unreported and unregulated (IUU) fishing. Re-directing support away from policies that incentivise more intensive fishing, towards activities that improve the sustainability of fishing operations, could have significant benefits for the environment as well as for fishers' livelihoods (Martini and Innes, 2018^[31]).

Figure 2.2. Agricultural producers support in OECD countries, 1990-2018



Note: Support to agricultural producers considered potentially most environmentally harmful consists of market price support; payments based on commodity output, without imposing environmental constraints on farming practices; and payments based on variable input use, without imposing environmental constraints on farming practices. Support considered potentially least harmful (or beneficial) consists of payments based on area/animal numbers/receipts/income with environmental constraints, payments based on input use with environmental constraints, and payments based on non-commodity criteria. "Other" refers to the remaining support that does not fit in either of these categories (i.e. miscellaneous). For explanation of the methodology, see Chapter 4 of the OECD (2013), Policy Instruments to Support Green Growth in Agriculture, OECD Green Growth Studies, OECD Publishing. <http://dx.doi.org/10.1787/9789264203525-en>

Source: OECD Secretariat calculations based on OECD (2019^[32]) "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), <http://dx.doi.org/10.1787/agr-pcse-data-en>

2.4 Assessing, tracking and reporting biodiversity finance: overview and recommendations

21. Various initiatives are underway to better assess and track finance for biodiversity. For example, Ireland and the majority of the thirty-five countries supported by the UNDP BIOFIN initiative have conducted assessments of their domestic biodiversity expenditure using the methodology outlined in the UNDP BIOFIN Workbook (UNDP, 2018^[33]). Another example is the methodology developed by the European Commission to track biodiversity expenditure in the EU budget, which has been applied to the EU 2014-2020 budget (Medarova-Bergstrom, et al., 2014^[34]) (EC, 2017^[35]).

22. Adopting a common approach and international standards to measure public biodiversity expenditure would improve the comparability of biodiversity expenditure data across countries. Existing frameworks and classifications such as COFOG, which includes a category on biodiversity and landscape protection (see section 3.1), the Classification of Environmental Protection Activities (CEPA) and the Classification of Resource Management Activities (CReMA), provide a basis for regularly and consistently assessing biodiversity expenditure. OECD is currently exploring opportunities to improve data on biodiversity expenditure as part of its regular data collection through environmental protection and expenditure account questionnaires, for example by harnessing synergies between CEPA and CReMA.¹³

23. Efforts are also underway to assess whether government budgets and fiscal policies are consistent with biodiversity objectives, taking into account finance flows that benefit biodiversity and also finance flows

¹³ Biodiversity expenditure data are captured under the CEPA domain 6 "protection of biodiversity and landscape", though coverage is partial. The CEPA domain 6 does not capture sustainable use of biodiversity resources, which are classified under the CReMA. See ENV/EPOC/WPEI(2019)5

that harm biodiversity. For example, through the Paris Collaborative on Green Budgeting¹⁴, the OECD is working with governments to design tools to assess and drive improvements in the alignment of national expenditure and revenue processes with biodiversity, climate and other environmental goals. France, a founding member of the collaborative, has developed a methodology for greening its national budget, and conducted an initial assessment of its revenues and expenditure to determine whether they positively or negatively impact biodiversity and other environmental objectives (Alexandre et al., 2019^[36]). The OECD is also currently developing national-level guidance to identify and assess subsidies harmful to biodiversity.

24. Assessing and tracking private biodiversity finance is also important, given the current data gaps and the pivotal role of private finance in addressing biodiversity loss. It is, however, particularly challenging, owing to the lack of common definitions, an absence of reporting frameworks and obligations and the challenges associated with identifying the biodiversity component of private transactions. Future work could focus on establishing a framework for systematically assessing and tracking private finance for biodiversity. The design of such a framework could build on the CEPA and the CReMA, and draw lessons from OECD's Research Collaborative on Tracking Private Climate Finance¹⁵. Synergies could also be harnessed with work underway by the European Union to develop a common classification system for sustainable finance, following the approval in December 2019 of the Regulation on "the establishment of a framework to facilitate sustainable investment" (the "taxonomy regulation") (Council of the European Union, 2019^[37]). Biodiversity criteria for this taxonomy is due to be developed by the end of 2021.

25. In addition to tracking volumes of biodiversity-relevant finance flows, it is also informative to track developments in the use of policy instruments and incentives relevant to biodiversity finance. The OECD database on Policy Instruments for the Environment (PINE) tracks progress on the implementation of biodiversity-relevant taxes, fees and charges, environmentally-motivated subsidies and tradable permit systems (i.e. the positive incentives in Aichi Target 3), and the revenue they generate (see Box 2.1). The OECD is currently expanding this work to collect data on biodiversity offsets and payments for ecosystem services. Currently, more than 110 countries report to the PINE database. At present, some of the data (e.g. on biodiversity-relevant taxes) are more detailed than others (e.g. subsidies targeting biodiversity).

26. Evaluating the effectiveness of finance flows – and the related policy and finance instruments – in achieving biodiversity impacts, is also useful (Karousakis, 2018^[38]). Such information can help governments and other actors to improve the design of their instruments, projects and investment strategies, and better deliver biodiversity finance (see (OECD, 2019^[2]) for more information).

27. Reporting of biodiversity expenditure to the CBD has improved, but remains limited. While the CBD financial reporting framework has facilitated greater transparency on biodiversity finance flows, less than 40% (74) of Parties have reported domestic expenditure through the framework as of January 2020. Only 25% of these countries have provided data on domestic expenditure for 2015 or more recent years. There is, therefore, scope to increase the number of countries reporting and the frequency with which they report.

28. Furthermore, although most countries reporting to the CBD indicated what their biodiversity expenditure includes (e.g. central and local government budgets/private/other; direct and indirect flows – see Table 3.1), only a few countries provided a quantitative breakdown by category. For example, for most countries it is not possible to distinguish between government and private finance flows. Assessing and tracking global biodiversity finance flows would be easier if all governments were to provide a breakdown of their expenditure by category, together with supplementary information on the methodology used to estimate the expenditure. Where possible, information on how biodiversity finance is spent would also be informative. As a first step, countries could report on how biodiversity finance is allocated between ocean/marine and terrestrial biodiversity, where this information is available. This would help to distinguish

¹⁴ For further information see <http://www.oecd.org/environment/green-budgeting/>

¹⁵ For further information on OECD's Research Collaborative see <https://www.oecd.org/env/researchcollaborative/>

between finance allocated for SDG 14 (Life below Water) and for SDG 15 (Life on Land). Increased co-operation and exchange of information among governments and international financial institutions, as well as further reporting experience gained over time, are likely to yield insights to further improve the assessment, tracking and reporting of biodiversity finance.

29. Key recommendations to improve the assessment, tracking and reporting of biodiversity finance flows are summarised below:

- Improve the consistency and transparency of the data reported to the CBD by adapting the financial reporting framework to request further granularity. Specifically, the template of the CBD financial reporting framework could be adapted to encourage countries to:
 - Report quantitative data on biodiversity expenditure by individual category (e.g. government budgets, private, NGO), rather than reporting only the total amount.
 - Provide supplementary information on methods used to estimate finance flows, by individual category. This could also include information on any data limitations and caveats, such as where double counting may occur (e.g. due to transfers from central to local governments, or grants from governments to NGOs).
 - Where possible, distinguish between expenditure allocated to promote the conservation and sustainable use of ocean/marine biodiversity (SDG 14) and terrestrial biodiversity (SDG 15).
- Develop and agree on an internationally harmonised approach for assessing and tracking public biodiversity finance, building on existing frameworks and classification systems.
- Establish a common framework to assess and track private finance for biodiversity, drawing lessons from OECD's Research Collaborative on Tracking Finance for Climate Action.
- Increase national-level efforts to identify, assess and track public expenditure harmful to biodiversity, including biodiversity-harmful subsidies.
- Develop guidance and adopt measures to evaluate the effectiveness of biodiversity finance flows, and related policy instruments.

3 Data sources and methods

3.1 Public finance: domestic flows

30. Public domestic finance refers here to finance provided within a country by national and sub-national governments, public agencies (e.g. Protected Areas agencies) and public financial institutions. Since no dataset covers all countries, this analysis draws on various sources of data to arrive at the most comprehensive estimate possible. The primary datasets analysed were: i) the CBD financial resource mobilisation reports; ii) the Biodiversity Finance Initiative (BIOFIN) biodiversity expenditure reviews (BERs); and iii) the Classification of Functions of Government (COFOG). Where available, additional data sources were analysed for countries not covered by at least one of these datasets. The datasets and their limitations are described below.

3.1.1 Data sources

CBD Financial Reporting Framework (CBD FRF)

31. Decision XII/3 of the Convention on Biological Diversity “[u]rges Parties and other Governments to report on their contribution to the collective efforts to reach the global targets for resource mobilization” and adopts a financial reporting framework. Seventy-four countries (40% of Parties) have reported domestic biodiversity expenditure to the CBD at least once. Forty-nine of these countries provided data on their domestic expenditure for 2015 or more recent years.

32. The CBD FRF provides a template for countries to indicate whether the reported expenditure is directly or indirectly related to biodiversity¹⁶, and what type of flows they include (e.g. government and private) (Table 3.1). In general, little guidance is provided on how to estimate and report domestic expenditure. Initial suggestions on how this could be improved were highlighted in section 2.

¹⁶ The distinction between direct and indirect biodiversity finance is comparable to the distinction between “principal” and “significant” objectives in the Rio marker methodology used by the OECD Development Assistance Committee. The CBD reporting guidance states: “Funding for biodiversity includes not only funding for direct actions to protect biodiversity but also funding related to actions across different sectors (e.g. agriculture, forestry, tourism) to promote biodiversity friendly initiatives that have other primary purposes (e.g. ecosystem-based approaches to climate-change mitigation and adaptation).”

Table 3.1. CBD financial reports: information on sources and categories provided by countries for domestic expenditure

Type of flow (source)	Expenditure directly related to biodiversity (n=number of countries)	Expenditure indirectly related to biodiversity (n=number of countries)
Governments budget – central	73	41
Governments budget – state/provincial	26	18
Governments budget – local/municipal	23	14
Extra-budgetary	26	15
Private/market	17	10
Other (NGO, foundations, academia)	31	18
Collective action of indigenous and local communities	6	3

Source: (SCBD, 2019^[39]), website accessed 5 August 2019

33. The first four categories in Table 3.1 (government budget at central, state and local levels and extra-budgetary) are relevant for the estimate of public domestic expenditure.¹⁷ Only a few countries that included spending from non-governmental bodies provided a quantitative breakdown of their reported expenditure. Each report was therefore examined to identify whether it was possible to extract public expenditure from the total reported. Countries whose public domestic spending could not be isolated from total spending were excluded from the analysis (19 out of 49 countries for the period 2015-2017). Expenditure reported in local currency were converted to USD using the World Bank's official historic exchange rate data for the year in which the flow occurred.

UNDP Biodiversity Finance Initiative (BIOFIN) – Biodiversity Expenditure Reviews

34. BIOFIN supports 35 (mainly developing) countries, to measure public and private biodiversity expenditure, defined as “any expenditure whose purpose is to have a positive impact or to reduce or eliminate pressures on biodiversity” (UNDP, 2018^[33]). BIOFIN's methodology is flexible and can be adapted by each country. As with the CBD FRF, BIOFIN's methodology counts expenditure that has biodiversity as its primary purpose (i.e. direct expenditure) and biodiversity as its secondary (or joint) objective (i.e. indirect expenditure). Guidance is provided on how to measure primary and secondary expenditure, with primary flows generally counted at 100%, and secondary flows weighted according to an estimate of the percentage of money spent that targeted biodiversity specifically (e.g. 75%, 50%, 25%, 5%, 1% or 0%). Completed biodiversity expenditure reviews (BERs) for 18 of the 35 BIOFIN countries were available for analysis. These BERs were reviewed and the relevant domestic public expenditure data extracted for this analysis. Expenditure presented in local currency were converted to USD using the World Bank's official historic exchange rate data for the year in which the flow occurred.

Classification of Functions of the Government (COFOG) data on biodiversity expenditure

35. COFOG was developed in 1999 by the OECD and published by the UN Statistical Division as a standard for classifying the purposes (functions) of government activities. Under COFOG, governments code each purchase, wage payment, transfer, loan disbursement or other outlay under one of ten divisions¹⁸, according to the primary function or purpose that the transaction serves. Each of these divisions is then broken down into groups, which, in turn, are subdivided into classes. Expenditure for which

¹⁷ Adding national and sub-national government expenditure entails a considerable risk of double counting, owing to transfers between government bodies. If countries did not account for this risk in their reported biodiversity expenditure, then some double counting will exist in the estimate of public domestic expenditure presented in this document.

¹⁸ General public services; defence; public order and safety; economic affairs; environmental protection; housing and community amenities; health; recreation, culture and religion; education; and social protection.

environmental protection is the primary purpose (irrespective of the sector) are coded under Division 5, Environment Protection. Activities relating to the protection of fauna and flora species (including the reintroduction of extinct species and the recovery of species menaced by extinction), the protection of habitats (including the management of natural parks and reserves) and the protection of landscapes for their aesthetic values (including the rehabilitation of damaged landscapes to improve their aesthetic value) are coded under Group 5.4: Protection of Biodiversity and Landscape (European Union, 2019^[40]). COFOG does not capture sustainable use activities.

36. The analysis here compiles COFOG data collected by the OECD, and complements this with COFOG data from EUROSTAT and International Monetary Fund (IMF) to increase country coverage. Reported values for group 5.4 Protection of Biodiversity and Landscape for the general government sector (central, state and local governments, and social security funds) were taken in this analysis as a measure of domestic public expenditure on biodiversity. It is, however, possible that the recorded expenditure includes some international spending, depending on how countries classify their expenditure.¹⁹ Expenditures reported in local currency were converted to USD using the World Bank's official historic exchange rate data for the year in which the flow occurred.

Comparison of datasets

37. Overall, the CBD FRF covers the most countries, followed by COFOG and then BIOFIN. It is important to note, however, that the COFOG data has, by far, the largest country coverage with data for most recent years (i.e. in 2016 and 2017) (Table 3.2). In terms of the scope of the datasets, the CBD FRF and the BIOFIN methodology are broader than COFOG: COFOG Group 5.4 only captures expenditure where biodiversity protection is the primary objective, whereas CBD financial reports and BIOFIN BERs also intend to cover flows where biodiversity is a secondary objective (i.e. indirect flows). However, COFOG is a well-established international standard for classification, promoting greater consistency and comparability across countries and over years.

38. For some countries, data are available from more than one dataset (see Table 3.2 for an overview). While, the majority of countries covered by more than one dataset have different expenditure values for each dataset, there is no consistent pattern. For example, country expenditures reported to the CBD are equal to COFOG data for one country, but lower or higher for the other countries. The same can be said when comparing BIOFIN expenditure data with CBD reports.

Table 3.2. Domestic public finance on biodiversity: Country coverage of CBD, BIOFIN and COFOG datasets by year

	2010	2011	2012	2013	2014	2015	2016	2017
Country coverage of domestic spending of CBD financial reporting framework (public spending can be isolated from total)	56 (34)	55 (33)	57 (35)	55 (33)	59 (35)	49 (30)	4 (3)	2 (2)
Country coverage of publicly available BIOFIN data	9	13	16	18	17	14	8	4
Country coverage of COFOG data	28	30	32	34	38	44	45	46
Countries covered by one or more of the datasets (public spending can be isolated from total)	70 (59)	75 (66)	81 (71)	82 (72)	88 (76)	83 (76)	53 (53)	50 (50)

Note: The drop in coverage in 2016 and 2017 is due largely to a lag in reporting. Countries do not report to the CBD FRF on an annual basis. Most countries that have reported to the CBD FRF have only reported once since the FRF was adopted in 2014, but included expenditure data for several years.

¹⁹ International public finance for biodiversity could be classified elsewhere e.g. Division 1 General Public Services: Group 2 Foreign Economic Aid.

Other data and information

39. Complementary data on domestic public expenditure was found for Australia and the United States, two of the countries not covered by the three datasets above. Australia's estimate was taken from Creswell and Murphy (2017^[41]), and represents federal level spending. United States' spending on biodiversity was estimated from an analysis of budget justifications of several federal agencies and programmes (U.S. Department of the Interior, 2019^[42])²⁰, personal communication on annual biodiversity expenditure of NASA (Pers. Comm., 2020^[43]) and data on 12 large government-funded payment for ecosystem services schemes (OECD, forthcoming^[44]).²¹ This is a conservative estimate, as it does not account for all federal agencies or sub-national entities.

3.1.2 Integrating the datasets on public domestic finance

40. To increase the country coverage of data on public domestic expenditure, the analysis combines data from across the datasets described above. When expenditure data for a country are available from more than one dataset and differ (e.g. due to differences in scope and methodology), the analysis applies the following order of priority to the datasets: 1) CBD reports, 2) BIOFIN BER reports, 3) COFOG data and 4) Other data. The CBD dataset is prioritised for two reasons. Firstly, it is the reporting framework that was internationally agreed upon for the specific purpose of reporting on biodiversity expenditure to the CBD. Secondly, the reporting framework allows countries to be comprehensive, drawing on BIOFIN, COFOG and other national data on domestic public expenditure on biodiversity²². BIOFIN data were prioritised over COFOG data because the initiative's expenditure reviews are more comprehensive, covering both direct and indirect flows and drawing on multiple data sources. It is important to stress that the objective of this analysis is to provide a comprehensive estimate of public domestic expenditure based on the best data that is currently available. To describe trends over time or to compare country expenditure would potentially require different data choices to emphasise consistency and comparability over comprehensiveness.

41. The estimate of annual spending is based on an average of available data for the period 2015-2017, rather than data from a single year. This helps to account for fluctuations in spending from one year to the next. The year 2015 was taken as a cut-off as it was considered to provide a balance between, on the one hand, ensuring that data reflects recent expenditure and, on the other hand, maximising the number of countries covered in the analysis. Basing an estimate on 2016-2017 would limit the scope to 55 countries and, therefore, provide only a partial picture of biodiversity finance flows. In comparison, an estimate for 2015-2017 brings the total to 81 countries. The benefit, in terms of country coverage, of adding additional years before 2015 diminishes with time. For example, including 2014 data would only increase the country coverage to 86 and including 2013 data would increase coverage to 87 countries.

3.1.3 Caveats and limitations

42. The estimates presented here are only as robust as the underlying datasets, which may be affected by methodological or practical limitations and possible reporting errors. For example, as aforementioned, while countries have a template for reporting biodiversity finance flows to the CBD, they are not required to follow a strict methodology for quantifying these flows. This gives rise to differences in

²⁰ US Geological Survey, US Fish and Wildlife Service, Bureau of Land Management, Wild Fire Management, Natural Resource Damage Assessment and Restoration Program, Environmental Protection Agency.

²¹ Conservation Reserve Program, Environmental Quality Incentives Program, Wetland Reserve Program, Wildlife Habitat Incentives Program, Voluntary Public Access and Habitat Incentive Program, Conservation Security Program, Conservation Stewardship Program, Agricultural Conservation Easement Program, Regional Conservation Partnership Program, Grassland Reserve Program, Chesapeake Bay Watershed Initiative and the Agricultural Water Enhancement Program.

²² Although the CBD reporting template facilitates comprehensiveness, the comprehensiveness of countries' finance reports to the CBD vary considerably. In most cases, it is difficult or impossible to assess comprehensiveness owing to a lack of supplementary information provided by countries on their methodology.

what and how countries report. In the absence of supplementary information from reporting countries, methodologies (and therefore data) cannot be compared between countries or across datasets.

43. While COFOG has clear guidance for reporting, it too has limitations. In theory, any transaction with the primary purpose of biodiversity and landscape protection should be categorised as group 5.4, irrespective of the agency or ministry responsible for the transaction. In practice, however, it can be difficult to divide a transaction with multiple purposes across the relevant divisions and groups. Furthermore, for practical reasons an agency or ministry may record their entire expenditure under a single COFOG division.

44. Although the methodology applied in this analysis extends the country coverage beyond the OECD (2019^[2]) estimate of public domestic biodiversity finance from 47 to 81 countries, it covers less than 50% of CBD signatories. On the other hand, the estimate does include data from most G20 (>75%) and OECD (>90%) economies (Table 3.3), which are likely to account for the majority of biodiversity finance. For a full list of countries covered in this analysis, see Annex A.

Table 3.3. Public domestic expenditure: data coverage of country groupings

Number (and percentage) of countries with biodiversity public domestic expenditure data for 2015-2017, per country grouping

	G20 (19 countries + EU)	OECD	CBD signatories
CBD financial reports	5 (25%)	10 (28%)	30 (16%)
BIOFIN BER	5 (25%)	2 (6%)	15 (8%)
COFOG biodiversity and landscape protection	8 (42%)	29 (81%)	48 (25%)
Other data sources used (Australia and US)	2 (11%)	2 (6%)	1 (1%)
Domestic public spending data available from one or more of the above sources	15 (75%)	34 (93%)	79 (40%)

Note: These are not mutually exclusive groupings: eleven G20 countries are also members of the OECD.

45. In addition, due to limitations of the datasets, the estimate of public domestic expenditure provided in this analysis only partially covers sub-national government expenditure. This is because the majority of countries reporting to the CBD have either not included data on sub-national governments or included only partial data. While local governments are often important actors in biodiversity finance, their limited coverage in this estimate does not *per se* have a considerable impact on the overall estimate. This is because local government budgets for biodiversity may be fed by transfers from central governments.

46. Furthermore, owing to variations in how countries report to the CBD and differences across the three underlying datasets, the estimate presented here includes indirect flows for approximately 25 countries only. Some countries have applied a coefficient to calculate the biodiversity relevant component of these indirect flows, while other countries included the entire amount, leading to inconsistencies in the data reported and potential over-counting. As countries did not specify the relative contribution of their indirect flows to their total reported expenditure, it was not possible to account for this in the estimate of public domestic finance presented in this report.

47. Finally, as mentioned above, if countries did not account for transfers between national and sub-national governments in their reported biodiversity expenditure, then some double counting will exist in the estimate of public domestic expenditure presented here.

3.2 Public finance: international flows

48. Public international biodiversity finance in this analysis refers to financial transfers from a government, public agency or public financial institution to support the pursuit of biodiversity objectives in another country. It includes ODA and other official flows (OOF), and both bilateral and multilateral flows (Box 3.1).

49. While 28 countries have reported their biodiversity-related ODA and OOF through the CBD financial reporting framework under section one “international financial resource flows”, the majority of entries date to 2015. Only 11 countries have provided information on international flows from 2016-2017. Furthermore, countries have reported their international flows in different ways. For example, some countries have reported “commitments”, whereas others have reported “disbursements”; some countries include only direct flows, while others include indirect flows²³; and some countries combine multilateral and bilateral ODA in their reports. For these reasons, this analysis bases the estimate of international public flows for biodiversity on the OECD Creditor Reporting System, which has recent, consistent and comparable data from official providers, including bilateral donors and multilateral organisations. This section describes the OECD Creditor Reporting System and the methodology used to estimate of public international flows for biodiversity.

Box 3.1. Key terms for biodiversity-related development finance

Official Development Assistance (ODA): Resource flows to countries and territories on the DAC List of ODA Recipients (developing countries) and to multilateral agencies which are: (a) undertaken by the official sector; (b) with promotion of economic development and welfare as the main objective; (c) at concessional financial terms. In addition to financial flows, technical co-operation is included in aid.

Other Official Flows (OOF): Transactions by the official sector with countries on the DAC List of ODA Recipients which do not meet the conditions for eligibility as Official Development Assistance, either because they are not primarily aimed at development, or because they have a grant element of less than 25 per cent.

Official Development Finance (ODF): Official development finance is measured only in relation to the receipts of developing countries, not for individual donor countries. It is a broad measure of developing countries’ official receipts for developmental purposes, and is defined as the sum of bilateral ODA flows, bilateral OOF except OOF grants and loans for commercial purposes, and all grants and loans by multilateral development institutions, irrespective of the grant element of the loans.

Bilateral: Flows provided directly by a donor country to an aid recipient country.

Multilateral: Flows are channelled via an international organisation active in development (e.g. World Bank, UNDP). A contribution by a DAC member to such an agency is deemed to be multilateral if it is pooled with other contributions and disbursed at the discretion of the agency.

Source: (OECD, 2019^[45])

²³ The distinction between direct and indirect biodiversity finance is comparable to the distinction between “principal” and “significant” objectives in the Rio marker methodology used by the OECD Development Assistance Committee to assess development finance. The CBD reporting guidance states: “Funding for biodiversity includes not only funding for direct actions to protect biodiversity but also funding related to actions across different sectors (e.g. agriculture, forestry, tourism) to promote biodiversity friendly initiatives that have other primary purposes (e.g. ecosystem-based approaches to climate-change mitigation and adaptation).”

3.2.1 Data sources: OECD Creditor Reporting System (CRS)

50. The OECD Development Assistance Committee (DAC) collects data on official development finance (ODF), i.e. bilateral ODA and multilateral outflows. This data includes information on the source and beneficiary of the finance commitments, the financing instrument, the sectoral focus and purpose (including biodiversity). The DAC also monitors development finance targeting the objectives of the Rio Conventions on biodiversity, climate change and desertification. For each activity reported to the CRS, providers apply the Rio marker methodology to indicate whether the activity targets the objectives of the CBD as a “principal” or “significant” objective, or not at all. Activities scored “principal” are funded specifically for that policy objective; activities scored “significant” have other primary objectives, but have been formulated or adjusted to help meet biodiversity objectives. The Rio marker methodology includes biodiversity-related finance from all sectors, not just the environmental sector. Moreover, while reporting on the Rio markers is only mandatory for DAC members²⁴, some non-DAC countries and multilateral agencies that voluntarily report to the OECD CRS also report on their biodiversity-related activities using the Rio marker methodology.

3.2.2 Methodology

51. The estimate for international public finance for biodiversity was calculated from the commitments reported by DAC and non-DAC member providers to OECD CRS database. It covers allocable²⁵ bilateral ODA and multilateral ODA, other official flows (OOF) and non-concessional multilateral outflows. The analysis presents a lower limit of biodiversity-related flows (equivalent to principal flows), an upper limit (the sum of “principal” and “significant” flows) and a mid-range estimate. The mid-range estimate includes 100% of principal flows and applies a coefficient of 40% to the flows marked as significant, which is consistent with the approach taken by many donor countries in their CBD financial reports.²⁶ This is because the Rio marker data reflects the full amount reported against the activity by the provider, rather than the biodiversity-specific share or component of the activity. Development finance tends to fluctuate from one year to the next. To account for this fluctuation, the estimates presented here are based on an average across three years: 2015-2017. This is consistent with the approach taken for public domestic finance. See Annex B for an overview of the annual data.

52. An additional analysis was conducted to estimate the amount of biodiversity-related ODA flowing towards marine biodiversity. This was done by applying a keyword search to the title, short and long descriptions to identify biodiversity-related ODA that included a marine component, based on the methodology used in (OECD, forthcoming^[46]). Landlocked countries and sectors considered irrelevant for the oceans were excluded to reduce the likelihood of generating false positives and improve the accuracy of the estimates. The keywords searched for in English and French were: “aquaculture”, “beach”, “bivalve”, “coral”, “deep water”, “dolphin”, “estuarine”, “estuary”, “fish” “fisheries”, “fishing”, “harbour”, “mangrove”, “marine”, “maritime”, “mussel”, “ocean”, “offshore”, “oyster”, “prawn”, “seashore”, “salt marsh”, “shark”, “shellfish”, “shipping”, “shrimp”, “tidal”, “tuna”, “turtle”, “whale”.

53. Adding *domestic* public expenditure to *international* public expenditure could result in double counting, as the domestic expenditure reported by recipients of development finance may overlap with bilateral and multilateral development finance reported by providers of development finance to the CRS. To account for the potential overlap, the average annual disbursement of biodiversity-related ODA (2015-

²⁴ For a list of DAC Members see: www.oecd.org/dac/development-assistance-committee/

²⁵ Bilateral allocable aid includes the following: sector budget support; core support to NGOs; support to specific funds managed by international organizations; pooled funding; projects; donor country personnel and other technical assistance; and scholarships in the donor country. It excludes general budget support, core contribution to multilateral organizations, imputed student costs, debt relief, administrative costs, development awareness, and refugee costs in the donor country – where donors’ intention is considered as impossible to identify.

²⁶ Of the 20 countries that have reported biodiversity-related ODA to the CBD using the Rio Marker methodology, nine applied a coefficient of 40% to “significant” flows. Four countries reported the sum total of “principal” and “significant” flows, three reported only “principal” flows, two applied a coefficient of 50%, one applied a range of coefficients from 10-50% for “significant” and 50-100% for “principal”, and two did not specify.

2017) to recipient countries included in the domestic expenditure estimate was calculated based on data in the CRS and then subtracted from the low-range estimate of global biodiversity finance.

3.2.3 Caveats and limitations

54. The estimates of international public finance flows for biodiversity are derived from data reported to the OECD's Creditor Reporting System (CRS). Several official providers do not, however, report to the CRS, including Brazil, the People's Republic of China, Colombia, Costa Rica, India, Indonesia, Qatar and South Africa. Although estimates of the overall volume of development co-operation finance provided by these countries exist, further work is needed to examine whether some portion of these flows are relevant to biodiversity. In addition, not all DAC and non-DAC members that report to the CRS include non-concessional flows (other official flows). However, as noted above, development finance for biodiversity tends to be concessional so the data gap in non-concessional flows is unlikely to have significant implications for the total estimate of international public flows.

55. Furthermore, not all commitments in the CRS have been marked by providers. For example, all DAC members (29 in 2017), but only 3 out of 9 reporting non-DAC countries and 3 out of 34 reporting multilateral agencies reported biodiversity-related commitments in 2017. Moreover, DAC and non-DAC members that reported biodiversity-related ODA did not necessarily screen all of their commitments. For example, the analysis here identified a total of USD 5.8 billion of bilateral allocable ODA commitments (DAC members and non-DAC countries) and USD 38.9 billion of multilateral concessional outflow commitments in 2017 that were not screened for biodiversity. It is, therefore, likely that some biodiversity-related commitments are not covered in this estimate – particularly commitments from multilateral organisations.

3.3 Private finance flows

56. Estimating private finance is particularly challenging, because private actors do not typically monitor and report their biodiversity expenditure. When they do, it is under diverse and poorly defined headings such as conservation finance, ecosystem finance and sustainable finance. However, data are available for some sources or intermediaries of private biodiversity finance and some financing instruments. This analysis pieces together the available data, accounting for potential duplication (i.e. double counting), for example between the expenditures of NGOs and philanthropic foundations. For consistency with the data presented on public expenditure, the analysis focusses on the period 2015-2017. Due to the gaps in datasets, the private sector estimates presented here are largely based on the most recent year for which data is available over this period. The data sources are described below.

3.3.1 Data sources

Philanthropic funding – OECD Creditor Reporting System

57. The CRS currently includes data on finance flows reported by over thirty philanthropic foundations. These data are collected and published at the level of individual grants and investments, and screened annually by the OECD Secretariat using the Rio Marker methodology. The coverage of philanthropic funding data in 2015 and 2016 is much lower than 2017. Therefore, the estimates in this paper include data for 2017 only. Data for 2018 are also available (see Annex Table A B.5), but are not included in the estimate as they fall outside the 2015-2017 window. Twenty-six philanthropic foundations reported to the CRS in 2017. Of these, 14 foundations were found to have biodiversity-related activities.²⁷ Consistent with

²⁷ Arcus Foundation, C&A Foundation, Children's Investment Fund Foundation, David & Lucile Packard Foundation, Dutch Postcode Lottery, Ford Foundation, Gatsby Charitable Foundation, Gordon and Betty Moore Foundation, John D. & Catherine T. MacArthur Foundation, MAVA Foundation, Oak Foundation, People's Postcode Lottery, Swedish Postcode Lottery, William & Flora Hewlett Foundation.

the approach taken for international public flows (above), Table 3.4. presents a lower and upper limit, as well as a mid-range estimate (applying a coefficient of 40% to activities marked as significant).

Table 3.4. Biodiversity-related funding from philanthropic foundations in 2017

Lower limit	Mid-range estimate	Upper limit
USD 222 million	USD 286 million	USD 380 million

Note: Lower limit = commitments tagged as “principal”. Mid-range estimate = the sum of 100% of “principal” and 40% of “significant”. Upper limit = the sum of “principal” and “significant”.

Source: Based on data reported to OECD (2020^[5]), Creditor Reporting System, accessed 31 March 2020.

Conservation non-governmental organisations

58. Biodiversity-focussed non-governmental organisations (NGOs) expenditure on biodiversity can be significant. For example, based on data provided in their annual financial reports, it is estimated that five large conservation NGOs²⁸ spent USD 2.3 billion in the financial year ending March/June 2017 (Conservation International and Affiliates, 2017^[10]) (RSPB, 2017^[11]) (The Nature Conservancy, 2017^[12]) (WCS, 2017^[13]) (WWF International, 2017^[14]).²⁹ However, NGOs receive a substantial share of their revenue from governments and philanthropic foundations. Incorporating the entirety of NGO expenditure in the global estimate of biodiversity finance would, therefore, lead to double counting. To address this, the revenues for 2016-2017 financial year of the five NGOs were analysed and revenues from the public sector and philanthropic foundations deducted from the total. The resulting estimate of USD 1.2 billion covers, among other things, individual membership fees and donations, corporate grants and investment income. The USD 1.2 billion figure is included in the lower limit estimate of private expenditure (and global biodiversity expenditure), while the USD 2.3 billion is included in the upper limit estimate, and entails some risk of double counting.

Biodiversity offsets

59. According to Bennett, Gallant and Ten Kate (2017^[6]), USD 2.6 – 7.3 billion was spent on the purchase of biodiversity offset credits and financial compensation in 2016.³⁰ This estimate is based on a survey of 99 regulatory biodiversity offsetting programmes in 33 countries. The authors report actual transactions, except for the United States for which sufficient data on volume and price was available to extrapolate estimated market value. The United States account for the majority of the estimate (USD 1.6 – 6.3 billion). There may be some double counting with the public expenditure data if i) public entities purchased offset credits and this was reported by governments as public biodiversity expenditure; ii) if the funds managing compensation payments are public entities and governments have reported their expenditure.

Sustainable commodities

60. To estimate private finance channelled towards improving the sustainability of commodity production (e.g. forestry, agriculture and fisheries), the analysis examines expenditure by companies to obtain biodiversity-relevant sustainability certification (e.g. spending on audits, environmental impact monitoring and mitigation and other changes in environmental management). It is important to reiterate

²⁸ Conservation International (CI), Royal Society for the Protection of Birds (RSPB), The Nature Conservancy (TNC), the Wildlife Conservation Society (WCS), and World Wide Fund for Nature (WWF-International).

²⁹ Official exchange rates from the World Bank Group was applied.

³⁰ This estimate does not include “permittee-responsible offsets” (one-off offsets) as these typically operate with less transparency and, therefore, expenditure data are limited. The total expenditure on biodiversity offsets is, therefore, likely to be larger than what is reported here.

that this analysis does not make any assessment of the effectiveness of the schemes, and focusses only on their intention.

61. The analysis focusses on the two largest forest certifications schemes that have explicit objectives on biodiversity, namely the Programme for the Endorsement of Forest Certification (PEFC) and the Forest Stewardship Council (FSC). Together these schemes covered 428 million hectares of forest in 2016, representing almost 11% of global forest area (PEFC, 2018^[47]) and the majority of agriculture and forestry land under sustainable certification. The total area of land under FSC and PEFC forest management certification is one of the operational indicators included in the CBD's list of indicators, and has been used to assess progress against Aichi biodiversity target 7.

62. The Breukink et al. (2015^[7]) survey of FSC-certified operators puts annual post-certification costs for FSC at USD 3.33 – 4.07 per cubic metre of roundwood. Specific data on the costs of PEFC certification were not found; however, it is assumed that these are sufficiently similar to FSC for the purpose of this analysis. The volume of FSC and PEFC certified wood in 2016 was 689 million cubic metres (FAO, 2018^[8]). Investments in sustainable forestry are therefore, estimated to be USD 2.3 billion – 2.8 billion per year.

Private finance mobilised by Development Assistance Committee (DAC) countries' official development finance interventions

63. Data on the amounts of finance mobilised by DAC countries' official development finance interventions are collected through the regular CRS data collection for the following financial instruments: syndicated loans, guarantees, shares in collective investment vehicles, direct investment in companies / project finance special purpose vehicles and credit lines. Work is ongoing to expand the scope of the measure to also include simple co-financing arrangements, including in the form of technical assistance. The methodologies for reporting on amounts mobilised are defined instrument by instrument (OECD, 2018^[48]), but overall they reflect the principles of causality between private finance made available for a specific project and an official intervention, as well as pro-rated attribution as to avoid double counting in cases where more than one official provider is involved in a project mobilising private finance. The amounts mobilised from the private sector cover all private finance mobilised by official development finance interventions regardless of the origin of the private funds (provider country, recipient country, third country).

64. The data included in this analysis cover only private finance mobilised by activities of DAC countries' development finance institutions, development banks and other agencies working on development. It does not include amounts mobilised by multilateral development organisations due to confidentiality constraints expressed by some multilateral development banks, and therefore does not overlap with the GEF co-finance reported above. Private finance is counted as biodiversity finance if the DAC member activity that mobilised the finance was marked by DAC members with the biodiversity Rio Marker. Lower limit counts only projects where biodiversity is the principal objective. The upper limit counts projects where biodiversity is the principal or a significant objective. As data coverage for the period 2015-2017 is much more limited, this analysis uses data from 2018 as a proxy for 2017.

Figure 3.1. Private finance mobilised by DAC countries' official development finance interventions, 2018

Lower limit	Mid-range estimate	Upper limit
USD 200 million	USD 324 million	USD 510 million

Note: Lower limit = commitments tagged as "principal". Mid-range estimate = the sum of 100% of "principal" and 40% of "significant". Upper limit = the sum of "principal" and "significant".

Source: Based on data reported to OECD (2020^[5]), Creditor Reporting System, accessed 27 February 2019.

Private finance leveraged by the Global Environment Facility

65. Data on private finance leveraged by the Global Environment Facility (GEF) were provided by the GEF Secretariat. The data cover:

- GEF full-size and medium-size projects for which a Project Identification Form (PIF) was approved between 2015 and 2017. This encompasses GEF Biodiversity Focal Area Projects and Multi-Focal Area projects that include a biodiversity component.
- Non-Grant Instrument projects³¹ approved between 2015 and 2017 that include a biodiversity component.

66. Private co-finance for GEF full-size and medium-size Biodiversity Focal Area projects approved between 2015 and 2017 was USD 42 million per year on average, and came from "beneficiaries" (defined as individuals or communities directly benefitting from the project/programme), "civil society organizations" (non-profit, non-governmental entity) and the "private sector" (commercial/for-profit entity). Private co-finance for GEF Multi-focal Area projects with a biodiversity component was USD 217 million per year on average, and came from beneficiaries, CSOs, foundations and the private sector. Private finance leveraged by Non-Grant Instrument projects with a biodiversity component averaged USD 63 million per year, and was leveraged from CSOs and the private sector.

67. Total private co-financing for GEF projects that include a biodiversity component averaged USD 323 million per year between 2015 and 2017. However, to avoid double counting, flows from CSOs and foundations were subtracted from the estimate presented in this paper. Similar to the approach taken for the international public finance, the lower limit estimate counts private finance flows to Biodiversity Focal Area projects only. The upper limit counts 100% of Biodiversity Focal Area projects and Multi-Focal Area Projects with a biodiversity component (Table 3.5).

³¹ For further information on GEF's Non-Grant Instrument Projects see: www.thegef.org/topics/non-grant-instruments

Table 3.5. Private finance for biodiversity mobilised by the GEF, 2015-2017

	Lower limit 100% (biodiversity-focal area projects only)	Mid-range estimate (100% biodiversity-focal area projects + 40% multi-focal area projects)	Upper limit (100% biodiversity-focal area and multi-focal area projects)
GEF full-size and medium-size projects private co-financing (without CSO and foundation co-financing)	USD 42 million (USD 25 million)	USD 129 million (USD 58 million)	USD 259 million (USD 106 million)
Non-Grant Instrument projects private co-financing (without CSO and foundation co-financing)	USD 23 million (USD 16 million)	USD 39 million (USD 29 million)	USD 63 million (USD 49 million)
Total private co-financing for biodiversity	USD 65 million	USD 168 million	USD 323 million
Total private co-financing for biodiversity without CSO and foundation co-financing	USD 41 million	USD 87 million	USD 155 million

Source: Based on data from GEF approved projects in 2015-2017. Data provided by GEF Secretariat in February 2020.

Payments for ecosystem services³² (specifically watershed services)

68. According to Bennet and Ruef (2016_[17]), user-driven watershed investments from the private sector amounted to USD 15.4 million in 2015. The payments came predominantly from food and beverage companies, finance and insurance companies, private water utilities and energy generation firms. Bennet and Ruef (2016_[17]) define user-driven watershed investments as “investments that channel payments from water users, such as companies or water utilities acting on behalf of customers, to landholders or other parties (“suppliers”), in exchange for conserving, restoring, or creating green infrastructure.”

69. While the total amount of payments for watershed services is much higher, the majority of payments come from the public sector. For example, Bennet and Ruef (2016_[17]) estimate public subsidies for watershed protection at USD 23.7 billion in 2015. These public payments may be captured (at least partially), in the public expenditure estimates presented in section 2.

Water quality trading and offsets

70. Water quality trading and offsets are mechanisms by which water users can address their impacts on watersheds by compensating other entities for offsite activities that enhance water quality or supply (Bennett and Ruef, 2016_[17]). Bennet and Ruef (2016_[17]) reported transactions of USD 31.8 million through

³² France uses the term payments for environmental services to emphasise that payments should only be made for services rendered that are additional to what the natural ecosystem would provide (i.e. in the absence of changes in management practices). This should, in fact, be a requirement for all PES programmes; see OECD (2010) for further discussion.

water quality trading and offsets in 2015. It is assumed here that the majority of these transactions were from the private sector.

Forest and land use carbon markets

71. In this analysis, the sale of carbon credits from forest and land use projects are used as a proxy for flows of biodiversity-relevant climate finance. The market value of voluntary forest and land use carbon offset transactions was USD 75 million in 2016. The majority of these offsets (92% by volume in 2016) were purchased by the private sector (Hamrick and Gallant, 2017_[16]). The value of the compliance forest and land use carbon offset market in 2016 (excluding Australia's Emission Reduction Fund for which the government was the only buyer), was USD 41.9 million (Hamrick and Gallant, 2017_[16]).

72. It cannot be assumed that all forest and land use projects benefit biodiversity. Indeed, in some cases, they may even harm biodiversity (e.g. where monoculture plantations replace more diverse ecosystems). This paper therefore presents a lower limit, which is the market value of offsets with dual Verified Carbon Standard (VCS) and Climate, Community and Biodiversity Standards (CCBA) certification. To be certified by CCBA, carbon offset projects must support biodiversity and local communities, in addition to delivering climate benefits. The market value of VCS and CCBA certified offsets was USD 30 million in 2016, which was calculated by multiplying the volume of transacted VCS and CCBA certified offsets in 2016 (7.7 MtCO₂) by the average price per certified tCO₂ (USD 3.90). The upper limit presented in the paper counts 100% of the voluntary and compliance market value of forest and land use carbon offsets.

3.3.2 Caveats and limitations

73. Comprehensive data on private sector finance on biodiversity is not readily available. This is due, among other things, to a lack of common definitions, an absence of reporting frameworks and obligations and the challenges associated with identifying the biodiversity component of private transactions. Therefore, the analysis here gives an indication of the order of magnitude of private expenditure on biodiversity, but it is not comprehensive. For example, the estimate of finance for sustainable commodity production (forestry, fishing, agriculture) includes a large share of land under sustainable certification, however, it only covers the forestry sector. While other datasets covered in this analysis (e.g. data on private finance mobilised by public development finance) include biodiversity finance flows in the agriculture and fisheries sector, they do not capture all biodiversity finance flowing to these sectors.

74. Furthermore, due to data limitations many of the estimates of average annual biodiversity finance for 2015-2017 are based on data for a single year only. This implies that the estimate does not account for year-to-year fluctuations in private finance flows.

75. Finally, some of the biodiversity finance counted in this analysis may not (yet) have been channelled to biodiversity. For example, Bennett, Gallant and Ten Kate (2017_[6]) found that a significant amount of the money paid into biodiversity compensation funds by developers had yet to be spent on biodiversity projects.

References

- Alexandre, S. et al. (2019), *Green Budgeting : Proposition de méthode pour une budgétisation verte*. [36]
- Bennett, G., M. Gallant and K. Ten Kate (2017), *State of Biodiversity Mitigation 2017: Markets and Compensation for Global Infrastructure Development*, http://www.forest-trends.org/wp-content/uploads/2018/01/doc_5707.pdf. [6]
- Bennett, G. and F. Ruef (2016), *Alliances for Green Infrastructure: State of Watershed Investment 2016*, Forest Trends' Ecosystem Marketplace, https://www.forest-trends.org/wp-content/uploads/2017/03/doc_5463.pdf. [17]
- Breukink, G. et al. (2015), *Profitability and Sustainability in Responsible Forestry: Economic impacts of FSC certification on forest operators*. [7]
- CBD COP14 (2018), *Decision 14/22, Resource Mobilization*, <http://www.cbd.int/doc/decisions/cop-14/cop-14-dec-22-en.pdf>. [49]
- Climate Bond Initiative (2017), *Green Bond Highlights 2016*. [19]
- Climate Bonds Initiative (2019), *Green bond issuance tops \$200bn milestone*, <https://www.climatebonds.net/2019/10/green-bond-issuance-tops-200bn-milestone-new-global-record-green-finance-latest-climate> (accessed on 5 December 2019). [18]
- Climate Bonds Initiative (2019), *Green Bonds the State of the Market 2018*, http://www.climatebonds.net/files/reports/cbi_gbm_final_032019_web.pdf. [26]
- Climate Bonds Initiative (2019), *Green Bonds: The State of the Market 2018*, http://www.climatebonds.net/files/reports/cbi_gbm_final_032019_web.pdf. [21]
- Climate Bonds Initiative (2018), *Bonds and Climate Change: The State of the Market*, http://www.climatebonds.net/files/reports/cbi_sotm_2018_final_01k-web.pdf. [20]
- Conservation International and Affiliates (2017), *Consolidated Financial Report*, https://d2ouvy59p0dg6k.cloudfront.net/downloads/wwfintl_annualreview2017.pdf. [10]
- Convergence (2019), *Blended Finance*, <https://www.convergence.finance/blended-finance> (accessed on November 2019). [27]
- Convergence (2019), *Data Brief: Blending in Conservation Finance, October 2019*. [25]

- Council of the European Union (2019), "Proposal for a Regulation of the European Parliament and of the Council on the establishment of a framework to facilitate sustainable investment", *Interinstitutional File: 2018/0178 (COD)*, <https://data.consilium.europa.eu/doc/document/ST-14970-2019-ADD-1/en/pdf>. [37]
- Creswell, I. and H. Murphy (2017), *Australia State of the Environment 2016: Biodiversity, Independent report to the Minister for the Environment and Energy, Department of the Environment*, <https://soe.environment.gov.au/sites/g/files/net806/f/soe2016-biodiversitylaunch->. [41]
- Diaz, S. et al. (2019), *Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services*, IPBES, Bonn, https://www.ipbes.net/system/tdf/ipbes_7_10_add-1-advance_0.pdf?file=1&type=node&id=35245 (accessed on 6 September 2019). [28]
- EC (2017), *Study on biodiversity financing and tracking biodiversity-related expenditures in the EU budget*. [35]
- European Commission (2018), *Statement of estimates of the European Commission for the financial year 2019*, <https://ec.europa.eu/budget/library/biblio/documents/2019/SoE2019%20with%20covers.pdf>. [4]
- European Union (2019), *Manual on sources and methods for the compilation of COFOG statistics, 2019 edition*, European Commission, <https://ec.europa.eu/eurostat/documents/3859598/10142242/KS-GQ-19-010-EN-N.pdf/ed64a194-81db-112b-074b-b7a9eb946c32>. [40]
- FAO (2018), *The State of the World's Forest 2018- Forest pathways to sustainable development*, FAO. [8]
- Forest Trends' Ecosystem Marketplace (2019), *Financing Emissions Reductions for the Future: State of Voluntary Carbon Markets*. [15]
- Hainaut, H. et al. (2018), *Landscape of Climate Finance in France, Low-Carbon Investment 2011-2017*. [3]
- Hamrick, K. and M. Gallant (2017), *Fertile Ground: State of Forest Carbon Finance 2017*, Forest Trends' Ecosystem Marketplace, https://www.forest-trends.org/wp-content/uploads/2018/01/doc_5715.pdf. [16]
- Karousakis, K. (2018), "Evaluating the effectiveness of policy instruments for biodiversity: Impact evaluation, cost-effectiveness analysis and other approaches", *OECD Environment Working Papers*, No. 141, OECD Publishing, Paris, <https://dx.doi.org/10.1787/ff87fd8d-en>. [38]
- Levin, J. (2012), *Profitability and Sustainability in Palm Oil Production: Analysis of incremental financial costs and benefits of RSPO compliance*, WWF, FMO, CDC. [9]
- Martini, R. and J. Innes (2018), "Relative Effects of Fisheries Support Policies", *OECD Food, Agriculture and Fisheries Papers*, No. 115, OECD Publishing, Paris, <https://dx.doi.org/10.1787/bd9b0dc3-en>. [31]
- Medarova-Bergstrom, K. et al. (2014), *Tracking Biodiversity Expenditure in the EU Budget, Part I – Guidance on definition and criteria for biodiversity expenditure in the EU budget*. [34]

- Mudaliar, A. et al. (2019), *2019 Annual Impact Investor Survey*. [22]
- Mudaliar, A. and H. Dithrich (2019), *Sizing the Impact Investing Market*, Global Impact Investing Network. [23]
- OECD (2020), *OECD International Development Statistics: Creditor Reporting System*, <https://doi.org/10.1787/dev-data-en>. [5]
- OECD (2019), *Biodiversity: Finance and the Economic and Business Case for Action*. [2]
- OECD (2019), *DAC Glossary of Key Terms and Concepts*, <http://www.oecd.org/dac/stats/dac-glossary.htm#ODA>. [45]
- OECD (2019), *OECD DAC Blended Finance Principles for Unlocking Commercial Finance for the Sustainable Development Goals*, OECD Publishing. [24]
- OECD (2019), *Producer and Consumer Support Estimates*, OECD Agriculture statistics (databsae), <http://dx.doi.org/10.1787/agr-pcse-data-en>. [32]
- OECD (2018), *Converged Statistical Reporting Directives for the Creditor Reporting System (CRS) and the Annual DAC Questionnaire. Annexes - modules A, B, and C.*, [http://dx.doi.org/DCD/DAC/STAT\(2018\)9/ADD1/FINAL](http://dx.doi.org/DCD/DAC/STAT(2018)9/ADD1/FINAL). [48]
- OECD (2013), *Policy Instruments to Support Green Growth in Agriculture*, OECD Green Growth Studies, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9789264203525-en>. [30]
- OECD (forthcoming), *Pilot Survey: Biodiversity Offsets and Payments for Ecosystem Services*. [44]
- OECD (forthcoming), *Sustainable Ocean for All: Harnessing the Benefits of the Sustainable Ocean Economy for Developing Countries*, OECD Publishing. [46]
- OECD/IEA (2019), *Update on recent progress in reform of inefficient fossil-fuel subsidies that encourage wasteful consumption*, <https://oecd.org/fossil-fuels/publication/OECD-IEA-G20-Fossil-Fuel-Subsidies-Reform-Update-2019.pdf>. [29]
- Parker, C. et al. (2012), *The Little Biodiversity Finance Book*, The Global Canopy Programme. [1]
- PEFC (2018), *Double certification continues to grow, joint PEFC/FSC data shows - PEFC - Programme for the Endorsement of Forest Certification*, <https://www.pefc.org/news/double-certification-continues-to-grow-joint-pefc-fsc-data-shows> (accessed on 27 November 2019). [47]
- Pers. Comm. (2020), *Email exchange with Sarah Weiskopf, U.S. Geological Survey, U.S. Delegate to OECD Working Party on Biodiversity Water and Ecosystems*. [43]
- RSPB (2017), *Trustees' report and accounts for the year ended 31 March 2017*, <https://www.rspb.org.uk/globalassets/downloads/about-us/rspb-annual-accounts-2017.pdf>. [11]
- SCBD (2019), *The Clearing-House Mechanism of the Convention on Biological Diversity: Information Submission Service*, <https://chm.cbd.int/search/financial-analyzer> (accessed on 5 August 2019). [39]
- The Nature Conservancy (2017), *Consolidated Financial Statements for the year ended June 30, 2017 and report hereon*, <https://www.nature.org/content/dam/tnc/nature/en/documents/tnc-2017-financial-statement.pdf>. [12]

- U.S. Department of the Interior (2019), *U.S. Department of the Interior Appropriations*, [42]
<http://www.doi.gov/budget/appropriations> (accessed on November 2019).
- UNDP (2018), *BIOFIN: The Biodiversity Finance Initiative Workbook*, [33]
<http://www.biodiversityfinance.org> (accessed on 20 August 2019).
- WCS (2017), *Conservation Impact Report*, [https://c532f75abb9c1c021b8c-
e46e473f8aadb72cf2a8ea564b4e6a76.ssl.cf5.rackcdn.com/2018/04/26/m9bt0vy8t_2017_WC
S_Conservation_Impact_Report_Digital_Version.pdf](https://c532f75abb9c1c021b8c-e46e473f8aadb72cf2a8ea564b4e6a76.ssl.cf5.rackcdn.com/2018/04/26/m9bt0vy8t_2017_WCS_Conservation_Impact_Report_Digital_Version.pdf). [13]
- WWF International (2017), *Annual Review 2017*, [14]
https://d2ouvy59p0dg6k.cloudfront.net/downloads/wwfintl_annualreview2017.pdf.

Annex A. Domestic public expenditure data

Table A A.1. Domestic public expenditure data: country coverage 2015-2017

	Country data included in total estimate	Data appear to also cover indirect flows	CBD (public expenditure data available for 2015-2017)	BIOFIN		COFOG
				Country supported by BIOFIN	Expenditure data available for 2015-2017	
Albania	✓					✓
Argentina						
Armenia	✓					✓
Australia	✓					
Austria	✓		✓			✓
Azerbaijan	✓					✓
Barbados	✓		✓			
Belarus	✓					✓
Belgium	✓					✓
Belize	✓	✓	✓	✓		
Bhutan				✓		
Bolivia	✓	✓	✓			
Bosnia and Herzegovina	✓		✓			
Botswana	✓	✓		✓	✓	
Brazil	✓			✓	✓	
Bulgaria	✓					✓
Burkina Faso						
Burundi	✓		✓			
Cambodia				✓		
Canada	✓		✓			
Chile				✓		
China	✓		✓			✓
Colombia	✓	✓		✓	✓	✓
Costa Rica	✓	✓	✓	✓		✓
Cote d'Ivoire						
Croatia	✓					✓
Cuba	✓	✓		✓	✓	
Cyprus	✓					✓
Czech Republic	✓					✓
DRC	✓	✓	✓			
Denmark	✓					✓
Ecuador	✓	✓	✓	✓		
Egypt	✓		✓			
Eritrea		✓				
Estonia	✓					✓
Fiji				✓		
Finland	✓					✓

	Country data included in total estimate	Data appear to also cover indirect flows	CBD (public expenditure data available for 2015-2017)	BIOFIN		COFOG
				Country supported by BIOFIN	Expenditure data available for 2015-2017	
France	✓					✓
Georgia	✓	✓		✓	✓	✓
Germany	✓					✓
Greece	✓					✓
Guatemala				✓		
Guinea						
Honduras						
Hungary	✓		✓			✓
Iceland	✓					✓
India	✓	✓		✓	✓	
Indonesia	✓			✓	✓	
Iran	✓		✓			
Ireland	✓					✓
Israel	✓					✓
Italy	✓		✓			✓
Japan	✓		✓			✓
Kazakhstan	✓	✓		✓		✓
Kuwait	✓		✓			
Kyrgyz Republic	✓			✓		✓
Latvia	✓					✓
Lebanon						
Lithuania	✓					✓
Luxembourg	✓					✓
Madagascar				✓		
Malawi				✓		
Malaysia				✓		
Maldives	✓		✓			
Malta	✓		✓			✓
Mauritania	✓	✓	✓			
Mexico	✓	✓	✓	✓	✓	
Micronesia	✓	✓	✓			
Moldova	✓		✓			✓
Mongolia	✓	✓		✓	✓	
Morocco						
Mozambique				✓		
Myanmar						
Nepal				✓		
Netherlands	✓					✓
New Zealand	✓		✓			
Niue						
Norway	✓					✓
Panama						
Peru				✓		
Philippines	✓	✓	✓	✓		
Poland	✓					✓
Portugal	✓					✓
Republic of Korea		✓				
Romania	✓					✓

	Country data included in total estimate	Data appear to also cover indirect flows	CBD (public expenditure data available for 2015-2017)	BIOFIN		COFOG
				Country supported by BIOFIN	Expenditure data available for 2015-2017	
Russian Federation	✓					✓
Rwanda	✓	✓		✓	✓	
Saudi Arabia						
Serbia	✓		✓			
Seychelles	✓	✓		✓	✓	
Singapore	✓					✓
Slovak Republic	✓		✓			✓
Slovenia	✓					✓
South Africa	✓	✓		✓	✓	
South Sudan						
Spain	✓					✓
Sri Lanka	✓	✓		✓	✓	
Sudan						
Sweden	✓		✓			✓
Switzerland	✓	✓	✓			✓
Tanzania				✓		
Thailand	✓	✓		✓	✓	
Turkey	✓					✓
Uganda				✓		
Ukraine	✓					✓
United Kingdom	✓					✓
United States of America	✓					
Uganda				✓		
Uruguay						
Venezuela	✓		✓			
Viet Nam	✓	✓		✓	✓	
Zambia				✓		
TOTAL	81	25	30	35	15	48

Note: This is not an exhaustive list of countries. It includes all OECD, G20 and BIOFIN countries plus all countries that have submitted CBD finance reports or data on biodiversity and landscape protection expenditure under COFOG. Additional countries may have included "indirect flows" in their reports to the CBD but did not explicitly state this.

Annex B. Biodiversity-related development finance data for recent years

Table A B.1. Allocable bilateral biodiversity-related ODA 2014-2017

Commitments, current prices.

	2014	2015	2016	2017
Principal (i.e. lower limit estimate)	USD 3 374 million	USD 4 166 million	USD 2 959 million	USD 3 480 million
Significant	USD 3 820 million	USD 4 613 million	USD 4 581 million	USD 5 340 million
Principal + 40% of Significant (i.e. mid-range estimate)	USD 4 903 million	USD 6 011 million	USD 4 791 million	USD 5 616 million
Principal + Significant (i.e. upper limit estimate)	USD 7 195 million	USD 8 779 million	USD 7 540 million	USD 8 820 million

Note: Covers DAC members (including EU Institutions) and other countries reporting biodiversity-related activities to the CRS.
Source: OECD (2020^[5]), Creditor Reporting System, accessed 31 March 2020.

Table A B.2. Bilateral biodiversity-related OOF 2014-2017

Commitments, current prices.

	2014	2015	2016	2017
Principal (i.e. lower limit estimate)	USD 11 million	USD 0.4 million	0	USD 19 million
Significant	USD 0.08 million	USD 11 million	USD 40 million	USD 0.09 million
Principal + 40% of Significant (i.e. mid-range estimate)	USD 11 million	USD 5 million	USD 16 million	USD 19 million
Principal + Significant (i.e. upper limit estimate)	USD 11 million	USD 12 million	USD 40 million	USD 19 million

Source: OECD (2020^[5]), Creditor Reporting System, accessed 31 March 2020.

Table A B.3. Multilateral biodiversity-related ODA 2014-2017

Commitments, current prices.

	2014	2015	2016	2017
Principal (i.e. lower limit estimate)	USD 245 million	USD 22 million	USD 295 million	USD 645 million
Significant	USD 63 million	USD 79 million	USD 669 million	USD 463 million
Principal + 40% of Significant (i.e. mid-range estimate)	USD 271 million	USD 54 million	USD 562 million	USD 830 million
Principal + Significant (i.e. upper limit estimate)	USD 308 million	USD 101 million	USD 964 million	USD 1 108 million

Note: Includes reporting from the Global Environment Facility, Inter-American Development Bank, Nordic Development Fund, United Nations Development Programme and the World Bank Group. Reporting on biodiversity-related activities by multilateral agencies is not yet comprehensive or consistent across years.

Source: Based on data reported to OECD (2020_[5]), Creditor Reporting System, accessed 31 March 2020.

Table A B.4. Multilateral biodiversity-related concessional flows 2014-2017

Commitments, current prices.

	2014	2015	2016	2017
Principal (i.e. lower limit estimate)	USD 30 million	USD 12 million	0	USD 6 million
Significant	USD 518 million	USD 41 million	USD 500 million	USD 36 million
Principal + 40% of Significant (i.e. mid-range estimate)	USD 238 million	USD 28 million	USD 200 million	USD 20 million
Principal + Significant (i.e. upper limit estimate)	USD 549 million	USD 53 million	USD 500 million	USD 42 million

Source: Based on data reported to OECD (2020_[5]), Creditor Reporting System, accessed 31 March 2020.

Table A B.5. Private philanthropy for biodiversity 2017-2018

Commitments, current prices.

	2017	2018
Principal (i.e. lower limit estimate)	USD 218 million	USD 191 million
Significant	USD 163 million	USD 203 million
Principal + 40% of Significant (i.e. mid-range estimate)	USD 283 million	USD 272 million
Principal + Significant (i.e. upper limit estimate)	USD 380 million	USD 393 million

Note: The OECD Creditor Reporting System (CRS) currently includes data on finance flows reported by over thirty philanthropic foundations. Fourteen foundations funded biodiversity-related activities in 2017: Arcus Foundation, C&A Foundation, Children's Investment Fund Foundation, David & Lucile Packard Foundation, Dutch Postcode Lottery, Ford Foundation, Gatsby Charitable Foundation, Gordon and Betty Moore Foundation, John D. & Catherine T. MacArthur Foundation, MAVA Foundation, Oak Foundation, People's Postcode Lottery, Swedish Postcode Lottery, William & Flora Hewlett Foundation. Four additional foundations funded biodiversity-related activities in 2018: McKnight Foundation, Norwegian Postcode Lottery, Omidyar Network Fund, and the Rockefeller Foundation.

Source: Based on data reported to OECD (2020^[5]), Creditor Reporting System, accessed 31 March 2020.

A Comprehensive Overview of Global Biodiversity Finance


Implementing an effective post-2020 global biodiversity framework will demand ambitious and widespread use of biodiversity policy instruments, and other measures, to promote sustainable patterns of production and consumption. It will also require governments and the private sector to scale up biodiversity finance and reduce finance flows that harm biodiversity. While it is clear that biodiversity finance must be increased, little information has been available on recent biodiversity expenditure. Building on OECD's 2019 report to the G7 Environment Ministers on "Biodiversity: Finance and the Business and Economic Case for Action", which included a preliminary update on global biodiversity finance flows, this report aims to address this information gap by providing a more comprehensive overview and an aggregate estimate of global biodiversity finance. The report also provides an overview of government support potentially harmful to biodiversity, and offers recommendations for improving the assessment, tracking and reporting of biodiversity finance.

The OECD Environment Policy Paper series

Designed for a wide readership, the OECD Environment Policy Papers distil many of today's environment-related policy issues based on a wide range of OECD work. In the form of country case studies or thematic reviews across countries, the Papers highlight practical implementation experience.

For more information:

 <https://www.oecd.org/en/topics/finance-and-investment-for-biodiversity.html>

 **Katia Karousakis:** katia.karousakis@oecd.org
Edward Perry: edward.perry@oecd.org

 **OECD Environment**

 **@OECD_ENV**

