FINANCING NATURE:

Closing the Global Biodiversity Financing Gap

Foreword and Executive Summary

保尔森基金会
PAULSON INSTITUTE

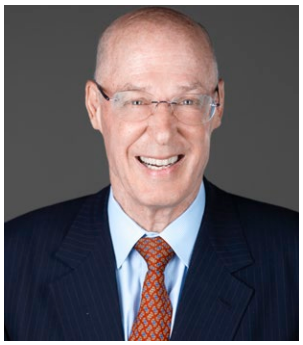
The Nature Conservancy

Cornell Atkinson Center for Sustainability

Contents

FOREWORD

The world is in the midst of one of the most dramatic extinction episodes in history.



HENRY M. PAULSON JR.
Chairman, Paulson Institute

The signs of biodiversity loss are everywhere. Tropical forests, our greatest stores of biodiversity and carbon, are in retreat. Coastal wetlands, vital to migratory birds and fisheries and also a significant global stock of carbon, are deteriorating worldwide. Although extinction is a natural phenomenon, scientists estimate that our planet is now losing species at 1,000 times the natural rate of one to five per year. If we continue on the trajectory we're on, we face a future where 30–50 % of all species may be lost by the middle of the 21st century.

Climate change is exacerbating this loss, causing coral reef bleaching, rampant growth of insect disease in forests, and severe expected loss of Arctic species. And it is a vicious circle—biodiversity loss also aggravates climate change. In the Amazon, hydrological changes caused by deforestation may permanently dry out millions of acres of rainforest and alter the entire Amazon climate. The resulting economic cost will be staggering.

If there's one lesson I've learned throughout all my years as a conservationist, it's that nature needs advocates. But advocates, for their part, need a clear and compelling economic case that can be broadly supported by the public and championed by political leaders. Today, the case for action has never been clearer.

Biodiversity loss doesn't just mean the loss of plants and animals. It poses enormous risks to human prosperity and well-being. Science is only beginning to understand and quantify the magnitude of this impact. The worldwide loss of pollinators—including bees, butterflies, moths, and other insects—well underway due to our excessive use of pesticides, would lead to an estimated drop in annual agricultural output of around US$ 217 billion. Associated with this loss are the risks of famine and social unrest, potentially more serious but harder to quantify.

The destruction of natural environments also brings people and wildlife into contact in a way that presents public health risks through the spread of zoonotic diseases. It may be no coincidence that we have seen multiple outbreaks of zoonoses during this time of rapid biodiversity loss, including SARS, Ebola, MERS, and SARS-CoV-2, the virus responsible for

the COVID-19 pandemic and its devastating impact across the world. However, these examples are the tip of the iceberg. Given the complexity and interdependencies of nature, there are many unknown risks.

Our political and economic systems and financial markets have not done enough to properly account for the services nature provides. For example, recent research has argued for a value as high as US$ 600 per ton of CO_2 captured, which would imply a value for forests in their role as carbon sinks alone of well over US$ 100 trillion. Yet valuing forests on carbon alone is akin to valuing a computer chip for its silicon. What we do have is an idea of the scale of our economic reliance on nature. The World Economic Forum estimates that US$ 44 trillion of global GDP—around half—is highly or moderately dependent on nature.

In short, although we will never be able to calculate the full value of nature, we know enough to know that its destruction presents profound risks to human societies and, as with any serious risk we face, the rational response is to hedge. In the case of biodiversity loss, this means taking comprehensive, worldwide effort to appropriately value, protect, and restore nature. The most cost-effective policies are those that would prevent ongoing destruction of biodiversity for short-term economic gains, while eroding and threatening the long-term prosperity and well-being of current and future generations.

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I've always believed that a healthy planet is good for business; it's far cheaper to prevent environmental damage than to clean it up afterward. For much of my career, this was a lonely position in the corporate world. But in recent years, something has changed. I've seen a new sense of urgency around nature conservation issues, a rapidly growing interest in the field of green and sustainable finance, and a renewed sense that collective effort can make a difference. Hopefully, investing in nature will move into the mainstream of the financial world soon enough to arrest the alarming decline of our biodiversity.

Ultimately, this will require a transformational shift in the way markets value nature. This shift needs to be reflected across governments, academia, the private sector, NGOs, media, and, most importantly, the public. In the meantime, to tackle the risks of biodiversity loss, it is important to identify and implement financing and policy mechanisms that can rapidly mobilize substantial amounts of capital for nature protection and conservation.

While government must play a leading role, we know that governments alone cannot deliver the financing needed to protect our biodiversity. The private sector is often touted—with good reason—as the great hope for conservation because the financial resources it could bring to

bear far exceed those of governments and philanthropy. Unquestionably, many CEOs in the private sector would like to protect nature. Some donate personal funds to conservation NGOs, and the organizations they run may make token investments and operating decisions to protect or restore biodiversity if they don't impact profitability. However, they won't deploy capital for conservation or environmental projects that don't promise economic returns. The distinction is important. Philanthropy is a way to distribute profits. Investing is a way that private sector generates profit. Deliberately investing at a loss isn't a realistic business model. That is why, to realize the potential of private sector investment in nature protection and conservation, governments must put in place policy measures—such as tax breaks, de-risking guarantees, and regulatory requirements—that induce the private sector to invest.

Philanthropy is a way to distribute profits. Investing is a way that private sector generates profit.

This report, a collaborative effort between the Paulson Institute, The Nature Conservancy, and Cornell University, makes a broad economic case for protecting and conserving nature and explores and highlights nine policy and financing mechanisms that, if implemented, will either secure new funding for biodiversity conservation or, through the reform of harmful subsidies, significantly reduce the need for future spending.

As governments prepare to agree on a "new deal for nature" at the 15th Conference of the Parties to the UN Convention on Biological Diversity, we offer this report as a contribution to help guide the negotiations, particularly around financial resource mobilization, and to national governments as they consider the domestic policies and measures required to implement the Post-2020 Biodiversity Framework and put their economies on a more sustainable path. It should be noted that investment in biodiversity will also contribute to reaching climate change goals given that nature-based solutions are among the most cost-effective climate mitigation strategies.

The economic case for protecting nature is compelling. However, we should keep in mind that there is an overwhelming case for preserving nature for its own sake. Nature is the greatest source of beauty, inspiration, innovation, and intellectual interest—indeed of everything that is good about life. In that sense, it is priceless.

EXECUTIVE SUMMARY

Human activities are causing unprecedented and accelerating global loss of biodiversity. Widespread land conversion for infrastructure, agriculture and other development, and overexploitation of natural resources are being driven by political leaders' prioritization of short-term economic gains and the inability of our economic systems and financial markets to appropriately value and protect our natural capital.

To slow and stop the global loss of biodiversity, we must fundamentally rethink our relationship with nature and transform our economic models and market systems. The policy and economic actions needed to achieve this require considerable political will, broad public support, and substantial investment. This will not happen overnight and, in the short to medium term, there is an urgent need to scale up finance for nature.

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The *Financing Nature* report addresses two important challenges.

First, the report lays out the broad **economic case for protecting nature**, including an examination of the many known economic and social values of biodiversity, while recognizing that the complexities and interdependencies of nature mean that attempted economic valuations will almost certainly be partial and underestimates. Biodiversity loss presents serious known and unknown risks to human prosperity. The report further examines the underlying market failures that hasten global biodiversity loss and indicates a number of policy interventions and changes needed to halt biodiversity loss.

Second, the report focuses on a critical element related to protecting biodiversity, namely the **biodiversity financing gap** between the current total annual capital flows toward global biodiversity conservation and the total amount of funds *needed* to sustainably manage biodiversity and maintain ecosystems integrity. Having gauged this biodiversity financing gap, the report identifies a set of **nine financial and policy mechanisms** that, if implemented and scaled up, can collectively close this gap.

The report goes into detail about the enabling conditions for the implementation and scaling of each of these mechanisms, and it makes detailed recommendations for policy makers, business leaders, and other stakeholders. It makes clear that all governments—from the biodiversity rich nations that may have limited economic means to the established donor countries—must take immediate actions to stem the loss of biodiversity.

The immediate intent of this report is to inform the work of national delegations and other negotiators in developing the resource mobilization strategy for the Post-2020 Biodiversity Framework that will be agreed to at the 15th Conference of the Parties (COP15) of the UN Convention on Biological Diversity (CBD) in 2021. The longer-term intent is to help political leaders, country finance ministries, international institutions, and representatives of companies, NGOs, and private philanthropy to better understand the economic case for biodiversity conservation and to accelerate the transformation of national economic models to those that appropriately value nature.

...governments... must take immediate actions to stem the loss of biodiversity.

Given the magnitude of the biodiversity financing gap identified by this report, coupled with estimates of the relatively limited amount of funding that will be available in coming years from traditional sources such as governmental budgets, official development assistance (ODA), and philanthropy, it is critical that the biodiversity targets to be agreed to at COP15 incorporate a broad spectrum of nontraditional mechanisms. Catalyzing private sector capital must be a priority, given that it constitutes the largest available source of financing. However, the report makes clear that the potential for private capital to support biodiversity conservation will only be realized if appropriate governmental policies, regulations, and incentives are in place.

A detailed description of the methodologies used in this report, including data sources and assumptions, can be found in Appendix A of the full report.

Central Insights

The report provides four central insights:

1. **Closing the gap relies heavily upon government actions.** Governments need to do more to protect natural capital and put in place a combination of policy reforms to reduce negative impacts on biodiversity, such as **reforming harmful agricultural subsidies** and reducing investment risk by public and private investors. Governments must also **develop new financial innovations to increase available funding for conservation**, promoting green investments, and supporting development of nature-based climate solutions, natural infrastructure and biodiversity offsets.
2. **The private sector can play a pivotal role, but governments need to pave the way. Governments need to put in place the right regulatory environment, smart incentives and market structures to catalyze financial flows from the private sector into biodiversity conservation.**
3. **The only way to stop global biodiversity loss is to ensure that nature is appropriately valued in all economies.** This will require bold political leadership and transformative policies, mechanisms and incentives that discourage harmful actions and encourage large-scale finance for nature.
4. **The gap between the amount currently spent on biodiversity conservation and what is needed is large, but it can be closed.** As of 2019, current spending on biodiversity conservation is between $124 and $143 billion per year, against a total estimated biodiversity protection need of between $722 and $967 billion per year. This leaves a current biodiversity financing gap of between US$ 598 billion and US$ 824 billion per year.

The text box below provides six **overarching recommended actions** derived from the analysis underlying this report. Additionally, there is a set of specific recommendations for each of the nine financial and policy mechanisms described in this report. These are described briefly at the end of this executive summary and in more detail in Chapter 6 of the full report.

OVERARCHING RECOMMENDATIONS

The key finding of this report is that governments must undertake catalytic policy reforms to unleash biodiversity funding. These six recommended actions will accelerate the of each of the nine financing mechanisms described in the report and materially contribute to closing the biodiversity financing implementation gap.

Recommended Action 1: Countries must take *immediate policy actions* to protect their natural capital and expand biodiversity conservation financing. This report identifies nine mechanisms with the highest promise for resource generation and harm-prevention, including prioritizing rural economic support that subsidizes farmers to provide ecosystem services, avoiding major infrastructure development impacts on critical habitats, and investing in nature-based climate solutions.

Recommended Action 2: Government and philanthropic donors should use their funds strategically to support countries to implement the financing mechanisms identified in this report and to catalyze subsequent public and private sector investment. This report calls for a doubling of foreign aid for biodiversity with the incremental resources being devoted to biodiversity-rich countries and toward implementation of these mechanisms.

Recommended Action 3: National and subnational governments should strengthen their regulatory and financial enabling conditions to significantly accelerate private sector actions and finance for biodiversity conservation. Governments should set policies and take actions to de-risk and incentivize private sector investment, build in-country support for sustainable commodity production, and ensure needed legal conditions including land tenure.

Recommended Action 4: Private sector actors should implement the recommendations from the sections on sustainable supply chains, harmful subsidy reform, natural infrastructure, biodiversity offsets, nature-based solutions and carbon markets, green investment, and investment risk management to both increase their opportunities to invest in biodiversity and minimize their biodiversity-related financial risks. In addition, major companies should adopt science-based targets for biodiversity within their operations and investments consistent with the 2050 vision of the UN Convention on Biodiversity.

Recommended Action 5: Governments and international agencies should improve tracking and reporting on biodiversity finance. Some of the best data collection and analysis that are available are spread across the OECD, UNDP's BIOFIN initiative and the CBD Secretariat. Additional public funding should be secured to support these institutions to enhance global finance data collection and build capacity of governments to collect and share data.

Recommended Action 6: In the context of the UN Convention on Biological Diversity negotiations, Parties should agree to develop and implement National Biodiversity Finance Plans (NBFPs) to guide the implementation of their national efforts toward the CBD's new Global Biodiversity Framework. The NBFPs should address opportunities to mobilize resources at all levels—local, national, and global—as well as from all sources—public, private, and philanthropic. To achieve this outcome, this report recommends the following Resource Mobilization targets for the Global Biodiversity Framework by 2030:

- *Global target:* Financial flows to investments that generate measurable and auditable improvements in the status of biodiversity increase globally to fully close the biodiversity financing gap by 2030 (est. US$ 598–824 billion annually);
- *Process target:* 100 % of Parties immediately develop National Biodiversity Finance Plans (NBFPs) and fully implement them by 2030;
- *National targets:* Each Party mobilizes 100 % of the necessary resources identified in their NBFPs to fully and effectively implement their National Biodiversity Strategies and Plans (NBSAPs); and
- *Global target:* International public funding for biodiversity at least doubles by 2030 and at least covers the costs, where needed, for developing countries to develop NBSAPs and NBFPs.

THE ECONOMIC CASE FOR PROTECTING BIODIVERSITY

a fundamental shift in the way markets, and economics more broadly, value and protect nature is imperative.

Viewed through a traditional economic lens, our planet's biodiversity and **natural systems are essentially a capital stock** (similar to financial, built, or human capital) that provides a flow of services to people. These "ecosystem services" include fertile soil and pollination that make food production possible, forests and watersheds that sequester carbon and purify water, and genetic diversity on which much of modern pharmacology and agriculture depend, among many others.

While it would seem possible to view biodiversity and natural systems as fundamental to human survival and economic prosperity, the tendency of political systems is to prioritize immediate economic gains while threatening the prosperity and well-being of current and future generations. The tendency of current economic models and financial markets is to view natural systems simply as assets available for immediate use or, worse, abuse and destruction. Such a view leads to the overuse and abuse of nature for short-term gains and without regard for the full value of the assets lost or the long-term costs to society of their loss.

Natural capital is complex and difficult to measure. Financial markets do not recognize the value of natural capital unless it has a defined cash flow or asset value that can be measured by current economic systems. **As a result, the full value or costs of using, or destroying, natural systems are poorly understood.** In contrast to other forms of capital, natural capital does not depreciate. Instead, it is to a certain extent self-regenerative. However, once ecosystem degradation reaches a tipping point, the self-regenerative properties of natural capital are lost, and ecosystem collapse may be irreversible.

Despite weaknesses in the models and tools to measure the value of natural capital, there are several studies that hint at its potential full value. Recently, researchers have estimated that approximately US$ 44 trillion of global GDP is dependent on nature and its services.[1] For example, the worldwide loss of all pollinators would lead to a drop in annual agricultural output of about US$ 217 billion.[2] Recent climate research has argued for a value as high as US$ 600 per ton of CO_2 captured, which would imply a value for forests in their role as carbon sinks alone of more than US$ 100 trillion.[3] As many as one third of the pharmaceuticals in use today were originally found in plants and other natural sources or were derived from substances occurring naturally.[4]

[1] C. Herweijer et al. (2020), *Nature Risk Rising: Why the Crisis Engulfing Nature Matters for Business and the Economy*, World Economic Forum, http://www3.weforum.org/docs/WEF_New_Nature_Economy_Report_2020.pdf.

[2] Helmholtz Association of German Research Centres (2008, September 15), Economic Value of Insect Pollination Worldwide Estimated at U.S. $217 Billion. *ScienceDaily*. Retrieved March 1, 2011, from http://www.sciencedaily.com/releases/2008/09/080915122725.htm.

[3] Umberto Llavador, John Romer, and Joaquim Silvestre, *Sustainability for a Warming World* (Harvard University Press, 2015).

[4] D. J. Newman and G. M. Cragg, Natural products as sources of new drugs over the 30 years from 1981 to 2010. *J Nat Prod*. 2012;75(3):311–335. doi:10.1021/np200906s

While these estimates demonstrate a potentially huge value of biodiversity to society, a major challenge lies in the fact that, **for every contribution of nature that can be measured and imputed a dollar value, there are many more that cannot.** In other words, when assessing the cost of biodiversity loss, there are "partly-known unknowns" and "unknown unknowns." Given this lack of exact knowledge, any estimate of the economic cost of biodiversity loss, even when based on a worst-case scenario, likely understates the cost of such losses.

The current failure of our financial markets and economic models and institutions to correctly value biodiversity lies at the intersection of several market failures. To start, many of the benefits of biodiversity are public goods that are non-excludable and non-rivalrous in nature, which means that markets will likely undervalue them. In addition, the benefits from biodiversity conservation and costs from biodiversity loss impact third parties in the form of external benefits and costs, which are another standard market failure where actors who conserve biodiversity are not adequately rewarded financially and perpetrators of biodiversity damage are not financially penalized. Finally, market failures in biodiversity are compounded by the lack of well-defined property rights of environmental goods and services, and as a result no one has any financial interest in, or can derive direct financial benefit from, conserving them or ensuring that they are allocated to their highest-value use.

Another comparison that can be made is in our understanding of the science and economics of climate change. Climate change science is far more advanced than the science of biodiversity loss, but climate change scientists nevertheless have greatly underestimated the rate and impact of warming, in part due to the challenge of incorporating the impacts of negative feedback loops in the warming process, such as accelerating glacial melt or methane releases from thawing permafrost. Likewise, **while our global economic models and systems do a reasonably good job tracking markets and finance in normal times, these same systems often fail in times of economic crisis.** These models and systems are unable to value our planet's deeply intertwined, dynamic, and complex climate, ecological, and human interrelationships.

A critical lesson is that we cannot rely on economic models, market forces, or the private sector alone to solve the problem of unprecedented global biodiversity loss. **Instead, policy intervention is essential.** Aside from the time-tested laws and policies that create protected areas and shelter endangered species, a host of policy instruments and mechanisms must be implemented to capture and derive economic benefits from nature in a sustainable manner or through a market-based approach, such as ecotourism, biodiversity-friendly products, and payment for ecosystem services. In addition, reforming agricultural and fishery subsidies harmful to biodiversity and promoting sustainable farming and fishing practices through well-designed policies will also help mitigate the impact of agriculture and fisheries, two of the largest drivers of global biodiversity loss.

Overall, a fundamental shift in the way markets, and economics more broadly, value and protect nature is imperative. Countries must implement new financing and policy mechanisms that more fully value natural capital, reduce harmful practices that destroy biodiversity, and rapidly mobilize substantial amounts of capital for biodiversity conservation.

CURRENT GLOBAL BIODIVERSITY CONSERVATION FINANCING, BIODIVERSITY CONSERVATION FUNDING NEEDS, AND THE BIODIVERSITY FINANCING GAP

Although the ultimate aim must be to appropriately value nature in our economic models, in the near-term there is an urgent need to scale up investment in biodiversity. This report determines that, in 2019, the total global annual flow of funds toward biodiversity protection amounted to approximately US$ 124–143 billion per year against an estimated annual need of US$ 722–967 billion to halt the decline in global biodiversity between now and 2030. Taken together, these figures reveal a Biodiversity Financing Gap of US$ 598–824 billion per year.

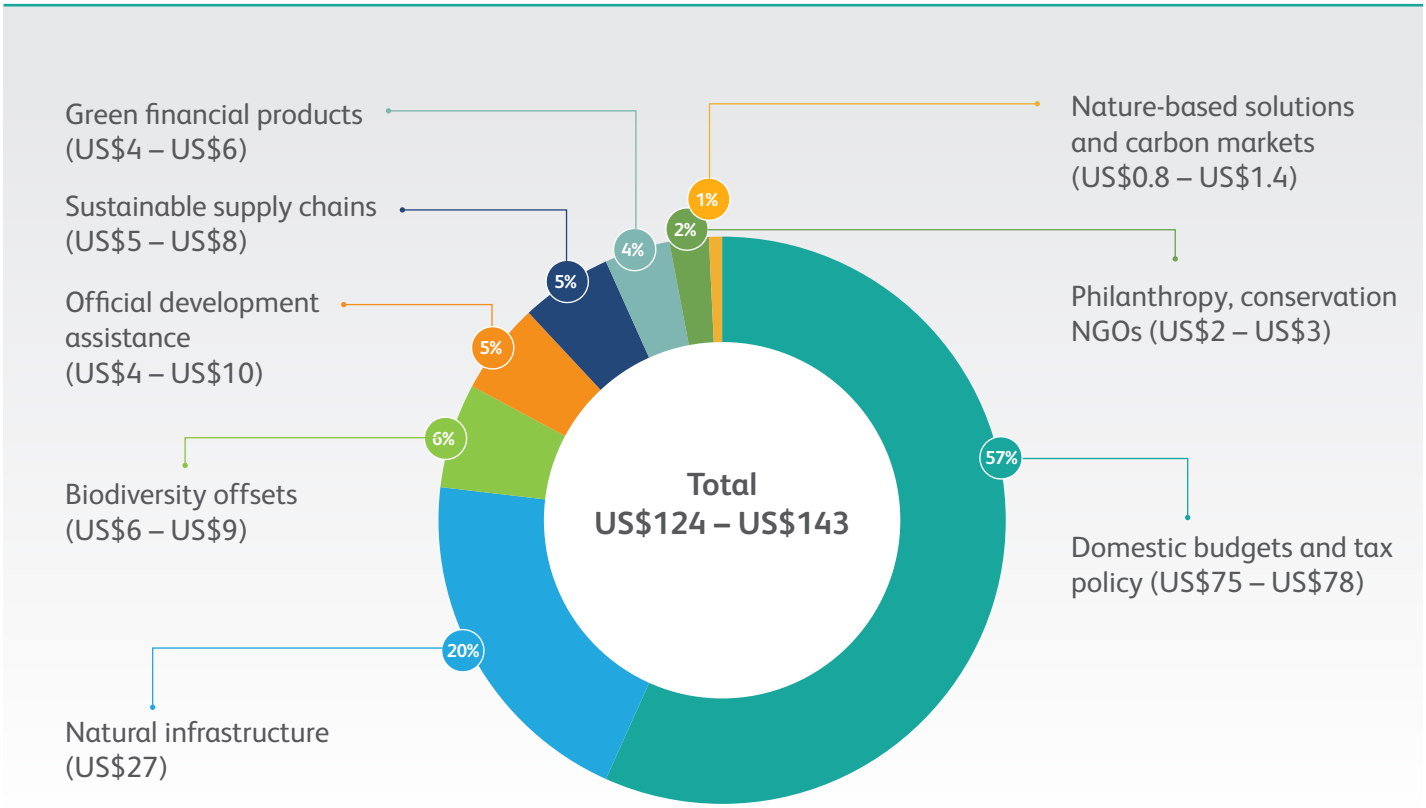
Significantly, this report shows that annual governmental expenditures on activities harmful to biodiversity in the form of agricultural, forestry, and fisheries subsidies—US$ 274–542 billion per year in 2019—are two to four times higher than annual capital flows toward biodiversity conservation.

Although this report addresses harmful subsidies from agriculture, forestry, and fisheries, it does not address the impacts of fossil fuel subsidies due to their indirect nature. This does not mean that fossil fuel subsidies are unimportant; the potential impacts of these subsidies on biodiversity, resulting from widespread conversion of natural vegetation for energy development and transmission and from increases in atmospheric and ocean temperatures associated with fossil fuel use, are highly likely to exacerbate and accelerate global biodiversity loss in addition to driving human-induced climate change.

Current Global Biodiversity Conservation Financing

The estimate of current global biodiversity conservation financing of US$ 124–143 billion per year is broadly consistent with other recently published estimates. For example, in early 2020 the OECD estimated[5] global biodiversity finance at US$ 78–91 billion per year based on available 2015–2017 data. In addition, BIOFIN estimates[6] that global annual public investment in biodiversity has increased from around US$ 100 billion in 2008 to about US$ 140 billion in 2017, with an average of US$ 123 billion deployed annually over this period. This report builds on the OECD's findings on public domestic, international public, and private mechanisms by providing a complementary assessment for private and public-private biodiversity finance.

FIGURE 1. Global biodiversity conservation financing in 2019: Summary of financial flows into biodiversity conservation. *(in 2019 US$ billions per year)*

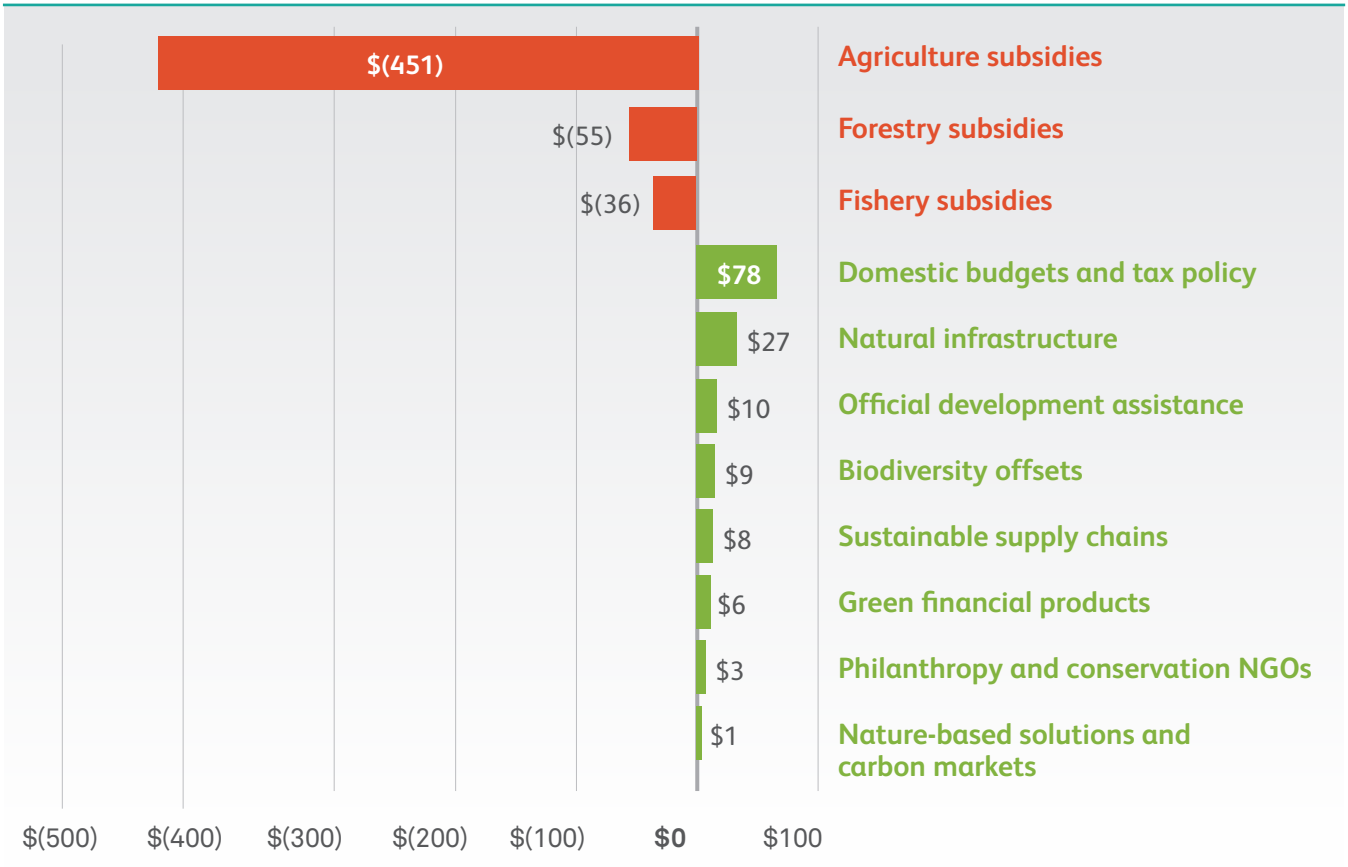


[5] OECD, 2020, *A Comprehensive Overview of Global Biodiversity Finance*. Final report prepared by the Organization for Economic Cooperation and Development (OECD), available at https://www.oecd.org/environment/resources/biodiversity/report-a-comprehensive-overview-of-global-biodiversity-finance.pdf.

[6] A. Seidl, K. Mulungu, M. Arlaud, O. van den Heuvel, and M. Riva, *Pennies for Pangolins: A global estimate of public biodiversity investments* (United Nations Development Programme, forthcoming 2020).

Figures 1 and 2 break down the sources of financial flows into biodiversity conservation and show the scale of harmful subsidies in 2019. The categories and numbers were drawn from a pool of more than 160 biodiversity finance mechanisms in the BIOFIN Catalogue of Finance Solutions.[7] Some of these mechanisms were not incorporated into the current global biodiversity finance estimate, as they do not generate significant financial flows for biodiversity conservation or because the annual funding data have not been tracked or collected by the range of clearinghouses for economic information consulted and analyzed for this report. As such, Figure 1 represents a close approximation of the total annual public and private expenditures globally for biodiversity protection and conservation. The estimates of harmful subsidies used in Figure 2 correspond to OECD's "most harmful" category of subsidies.[8] Note again that this report excludes fossil fuel subsidies.

FIGURE 2. Harmful subsidies and global financial flows towards biodiversity conservation.
(upper estimates, in 2019 US$ billion per year)



Note: The estimates of agricultural, forestry, and fisheries harmful subsidies correspond to OECD's "potential biodiversity harmful" category of production subsidies. This graph excludes the estimated additional US$ 395–478 billion in fossil fuel production subsidies.[9]

[7] UNDP BIOFIN, BIOFIN Catalogue of Finance Solutions, available at: https://www.biodiversityfinance.net/finance-solutions.

[8] OECD, 2020, *A Comprehensive Overview of Global Biodiversity Finance*. Final report prepared by the Organization for Economic Cooperation and Development (OECD), available at: https://www.oecd.org/environment/resources/biodiversity/report-a-comprehensive-overview-of-global-biodiversity-finance.pdf.

[9] OECD, 2020, Rising fossil fuel support poses a threat to building a healthier and climate-safe future, available at https://www.oecd.org/fossil-fuels/.

Biodiversity Conservation Funding Needs

For the purposes of projecting future annual funding needs for biodiversity protection, natural and human landscapes were divided into three broad categories of protected areas, productive landscapes, and urban environments, and the costs were estimated for their sustainable management:

1. **Protected areas:** This report incorporates the proposed global target for increasing both terrestrial and marine protected areas to reach 30 % by 2030, consistent with proposals by several conservation NGOs and many governments, in anticipation of the new set of global biodiversity targets to be negotiated at the CBD COP15. Waldron et al. (2020)[10] propose a suite of six scenarios for protecting biodiversity. The lower estimate for future needs has been taken as a scenario that allows for a compromise between biodiversity protection and productive landscapes, thereby aligning with the category described in this chapter of productive landscapes and seascapes. The upper estimate is that of the scenario that prioritizes broader ecosystem integrity and viability.[11] The range of these cost estimates is US$ 149–192 billion per year.
2. **Sustainable management of productive landscapes and seascapes:** The costs in 2030 of sustainably managing the world's most productive landscapes and seascapes for the protection of biodiversity and key ecosystems were estimated as follows:
   a. Transitioning the agricultural sector to conservation agriculture practices in croplands by 2030 is estimated at US$ 315–420 billion per year.
   b. Transitioning global rangelands to sustainable rangeland management practices by 2030 is estimated at US$ 81 billion per year.
   c. Transitioning the forestry sector to sustainable forest management practices is estimated to be US$ 19–32 billion per year.
   d. Transitioning the global fisheries sector to sustainable fisheries practices is estimated at US$ 23–47 billion per year.
   e. Minimizing and mitigating the biodiversity impact of invasive species is estimated at US$ 36–84 billion per year.
   f. Restoring degraded coastal ecosystems (mangroves, seagrasses, and saltmarshes) that provide multiple, vital benefits for coastal communities is estimated at US$ 27–37 billion per year.

...a global biodiversity funding need of US$ 722–967 billion annually by 2030.

[10] A. Waldron et al., 2020, *Protecting 30% of the planet for nature: Costs, benefits and economic implications*, available at https://www.conservation.cam.ac.uk/files/waldron_report_30_by_30_publish.pdf

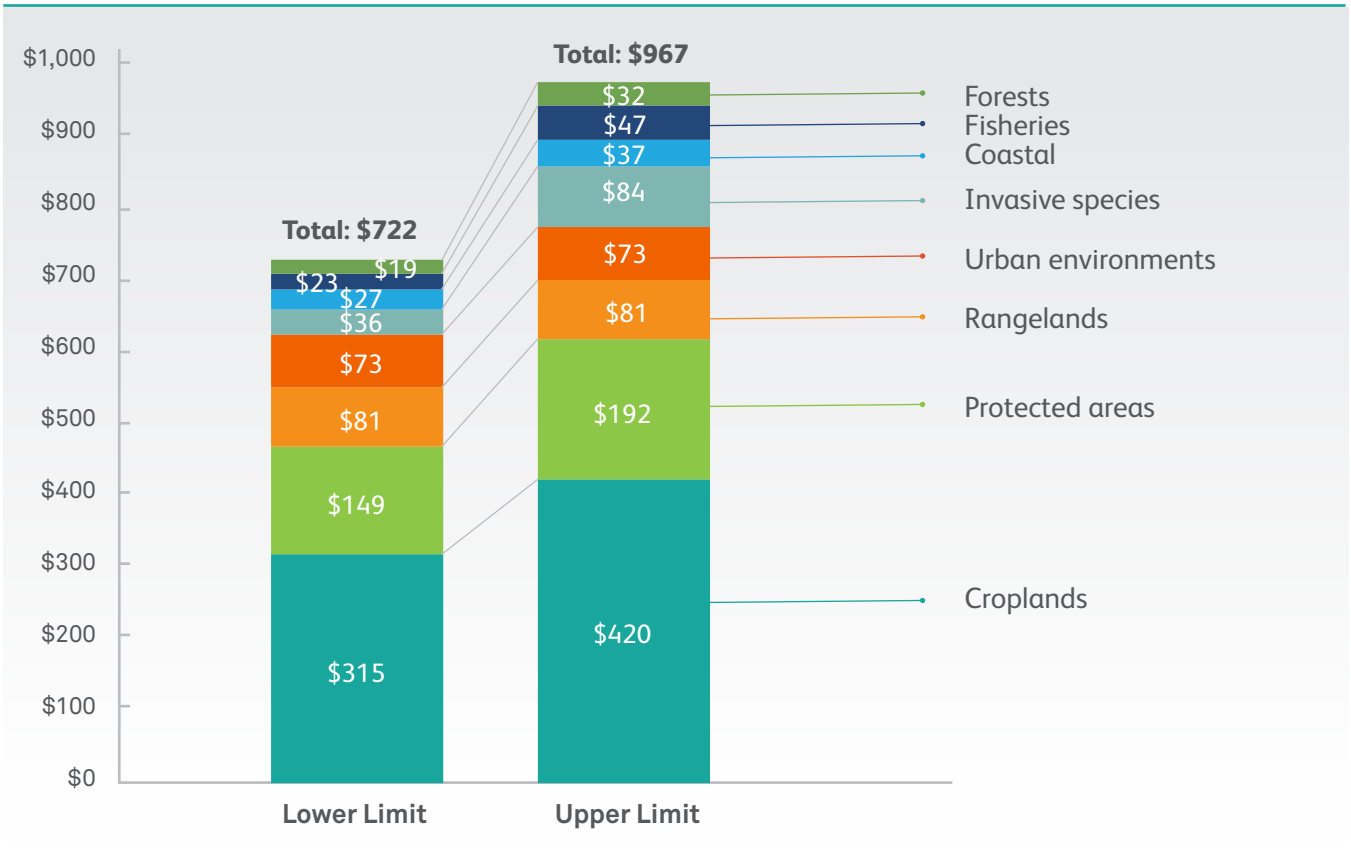
[11] The 2020 Waldron et al. paper uses a set of six scenarios to estimate a range of spending required to develop and manage biodiversity protected areas. This report establishes a range for protected area financing needs using two scenarios that dovetail with other estimates of future biodiversity needs, such as productive landscapes and seascapes.

3. **Urban areas and areas of high human impact:** Urban expansion will result in the conversion of some 290,000 km^2 of natural habitats by 2030 and has the potential to degrade 40 % of strictly protected areas globally expected to be within a short distance of urban areas, if this expansion is not managed or mitigated for these impacts. The cost to protect biodiversity in the peripheries of cities is estimated at US$ 14.1–543 million per year. The impact of polluted water from urban environments on water quality and subsequently on biodiversity in marine and riverine ecosystems downstream of cities stems from untreated sewage. The cost of safeguarding biodiversity against the impact of polluted water from urban environments is estimated at US$ 73 billion per year.[12]

Aggregating these figures leads to a global biodiversity funding need of US$ 722–967 billion annually by 2030, shown in Figure 3, representing approximately 0.7–1.0 % of global GDP in 2019.

These estimates, while sobering, should be viewed as initial approximations of what is needed for biodiversity conservation. Estimates of this nature are not precise as they are affected by the limited biodiversity finance data available and inconsistencies between reporting frameworks.[13]

FIGURE 3. Global biodiversity conservation funding needs. *(in US$ billions per year)*



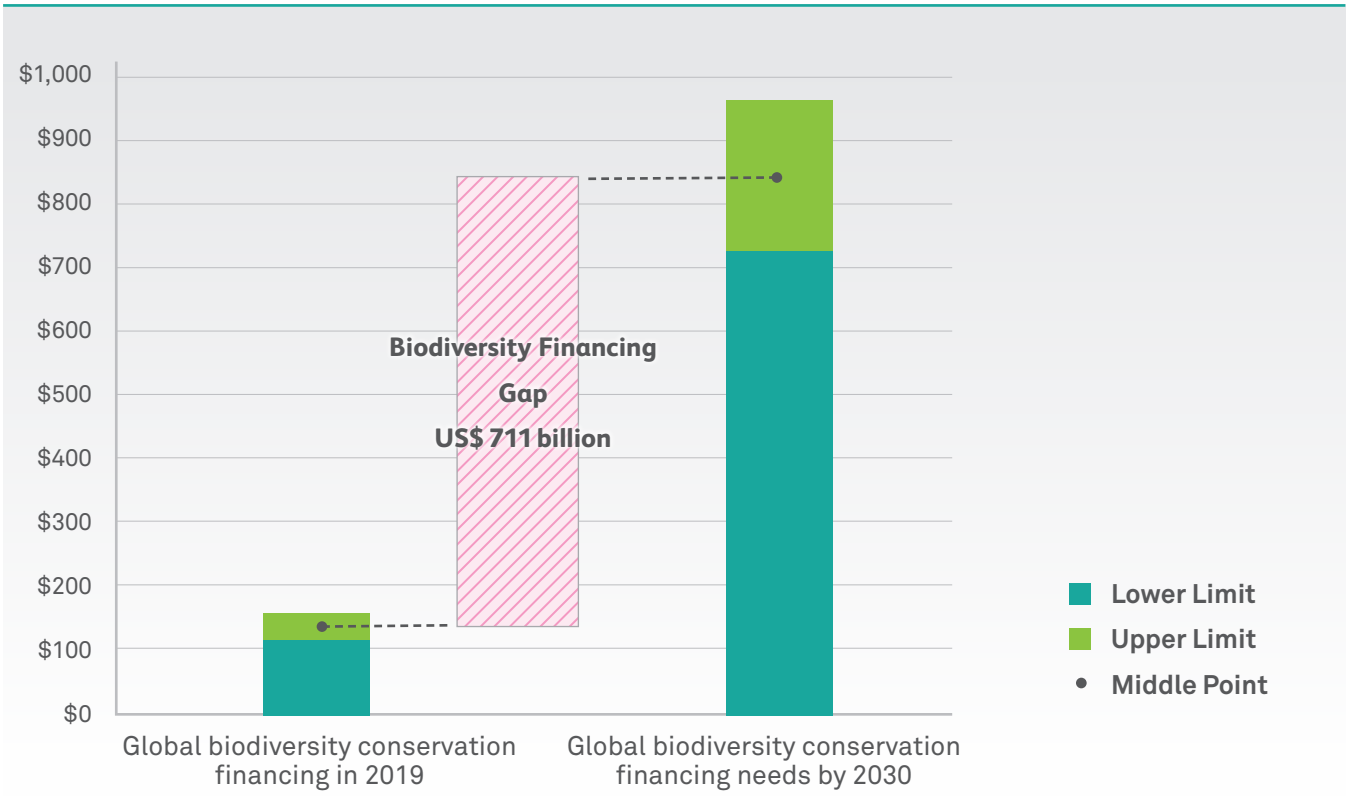
[12] G. Hutton and M. Varughese, 2016, *The costs of meeting the 2030 sustainable development goal targets on drinking water, sanitation, and hygiene*. The World Bank., available at https://www.worldbank.org/en/topic/water/publication/the-costs-of-meeting-the-2030-sustainable-development-goal-targets-on-drinking-water-sanitation-and-hygiene.

[13] OECD, 2020, *A Comprehensive Overview of Global Biodiversity Finance*, Final report prepared by the Organization for Economic Cooperation and Development (OECD), available at: https://www.oecd.org/environment/resources/biodiversity/report-a-comprehensive-overview-of-global-biodiversity-finance.pdf.

The Biodiversity Financing Gap

When the estimates of global biodiversity funding needs (US$ 722–967 billion annually) are compared to the existing flows of biodiversity financing (US$ 124–143 billion), a global **Biodiversity Financing Gap** can be estimated in the range of US$ 598–824 billion per year. This means that current levels of funding cover only 16–19 % of the overall need to halt biodiversity loss. Figure 4 demonstrates the annual financing gap by comparing the average amounts of upper estimates of current funding and future need. The average gap is US$ 711 billion per year.

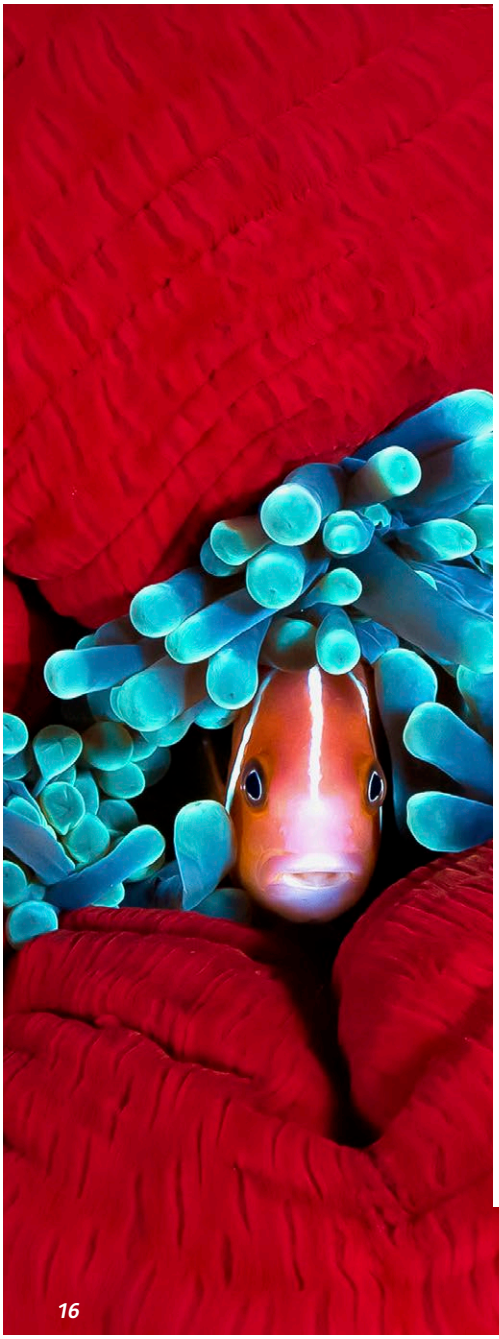
FIGURE 4. Global biodiversity conservation financing compared to global biodiversity conservation needs. *(US$ billions)*



Note: Using midpoints of the current estimates and future needs, current global biodiversity conservation financing (left graph) may need to increase by a factor of 5–7X to meet the estimated global need for biodiversity conservation (right graph).

These estimates of future needs and the biodiversity financing gap, although reasonable, are not exact, and thus ranges are used to show the variability in the estimates. As such, these estimates should be considered indicative of the scale of the need and represent a reasonable and ambitious target for which to plan and aim.

CLOSING THE BIODIVERSITY FINANCING GAP



The report outlines a set of nine financial and policy mechanisms that, if scaled through appropriate public policies and private sector action, have the potential to collectively make a substantial contribution to closing the global biodiversity financing gap over the next decade.

Analysis and selection of the nine financial and policy mechanisms is based on the UNDP BIOFIN Catalogue of Finance Solutions and screened mechanisms against the following three criteria:

- The mechanism is currently in use at a significant scale (more than US$ 0.5 billion per year);
- The mechanism, if scaled, has the potential to deliver substantial amounts of new funding on a consistent basis (more than US$ 5 billion per year and a potential compound annual growth rate of at least 2.5 %); and
- The mechanism has a realistic policy and/or market pathway to scaling in order to meet its potential.

The nine mechanisms address the closing of the biodiversity financing gap in one of two ways. Two of the nine decrease the overall need for funding to be spent on biodiversity conservation. The remaining seven increase funding flows into biodiversity conservation.

Table 1 shows the current and potential future scale of financing flowing through these mechanisms to support biodiversity conservation. The estimates are expressed in ranges, reflecting the degree of uncertainty.

The analysis underlying this report yielded a numerical value for eight of the nine mechanisms, which collectively have the potential to contribute US$ 446–633 billion per year by 2030 toward meeting the estimated US$ 722–967 billion annual funding needs for global biodiversity conservation over the next decade. It was not possible to determine either current or future estimated numbers for the category of Investment Risk Management. Nonetheless, the report includes this category as it reflects a critical area of biodiversity impact and needs attention in the CBD Resource Mobilization Strategy as mainstreaming biodiversity in the financial sector will be critical to the success of the Global Biodiversity Framework.

TABLE 1. Estimated Positive and Negative Flows to Biodiversity Conservation.

Financial and Policy Mechanisms	2019 *US$ billion / year*	2030 *US$ billion / year*
A. Mechanisms that decrease the overall need for funding to be spent on biodiversity conservation		
Harmful subsidy reform (agriculture, fisheries, and forestry sectors)	(542.0) – (273.9)	(268.1) – 0*
Investment risk management	N/A	
B. Mechanisms that increase capital flows into biodiversity conservation		
Biodiversity offsets	6.3 – 9.2	162.0 – 168.0
Domestic budgets and tax policy	74.6 – 77.7	102.9 – 155.4
Natural infrastructure	26.9	104.7 – 138.6
Green financial products	3.8 – 6.3	30.9 – 92.5
Nature-based solutions and carbon markets	0.8 – 1.4	24.9 – 39.9
Official development assistance (ODA)	4.0 – 9.7	8.0 – 19.4
Sustainable supply chains	5.5 – 8.2	12.3 – 18.7
Philanthropy and conservation NGOs	1.7 – 3.5	Not Estimated**
Total Positive Financial Flows	**123.6 – 142.9**	**445.7 – 632.5**

Note: All figures in this table are reported in 2019 US$.

* Assumes a global subsidies reform scenario that phases out by 2030 the most harmful subsidies as described by OECD (2020)[14].

** While future flows for philanthropy and conservation NGOs are seen as highly catalytic for mobilizing private sector financial flows, it was determined that they did not pass the threshold for inclusion in this report as a main mechanism for scaling up to close the biodiversity financing gap.

These estimates, and the resource mobilization challenge they represent by 2030, may appear inordinately large. However, the financial resources that will be needed to close the biodiversity financing gap are comparable in magnitude to the capital committed to global climate-related investments of US$ 579 billion in 2017–2018, as estimated by Buchner and colleagues in 2019.[15] For context, this amount is less than the world spends on soft drinks in a year.[16]

Even when factoring in the maximum estimate of increased funding flows toward biodiversity conservation of US$ 446–633 billion per year, the 2030 global biodiversity financing gap will not be closed unless there are significant efforts to scale up the reform of subsidies harmful to biodiversity and improve investment risk management practices by the financial sector. These harmful subsidies were due to be eliminated, phased out, or reformed by 2020 under target three of the Aichi Biodiversity Targets agreed to in 2010, but little progress has been made. To continue to delay meaningful action on reducing harmful subsidies will cause extensive damage to

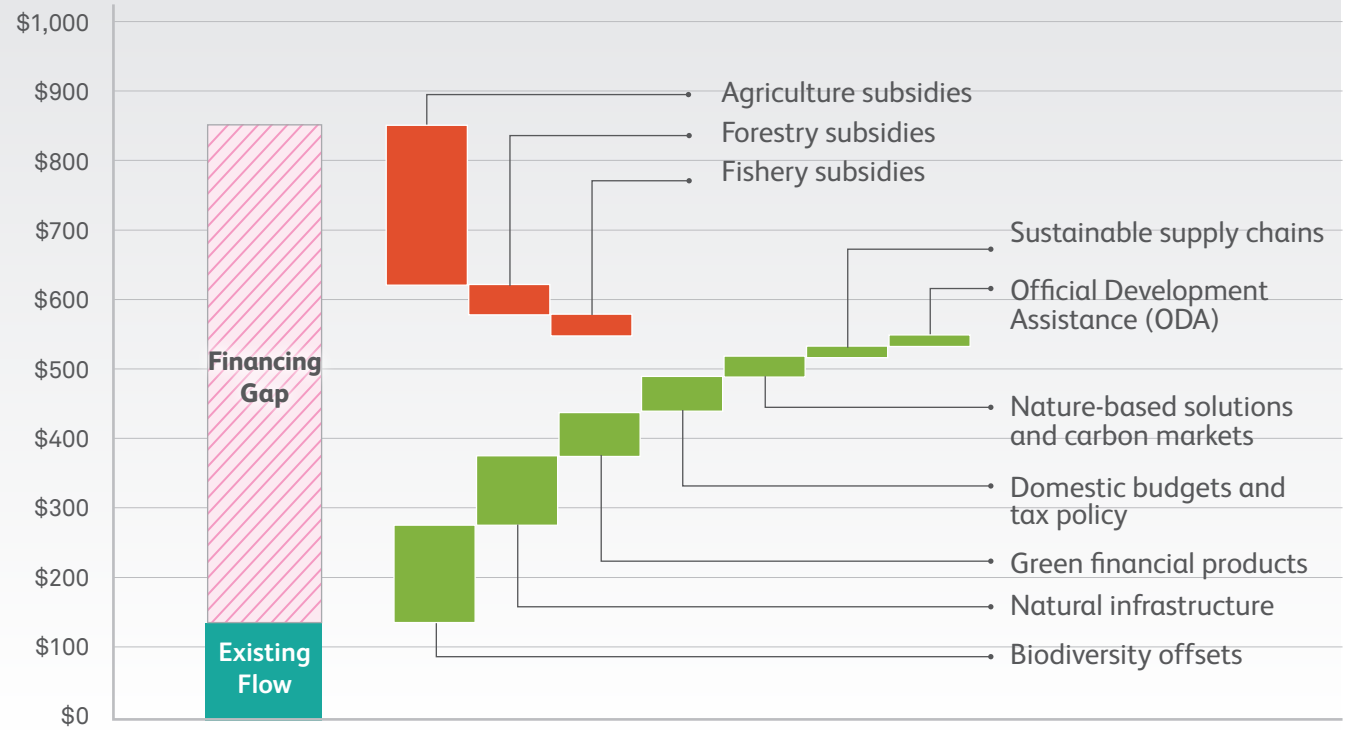
[14] OECD, 2020, *Rising fossil fuel support poses a threat to building a healthier and climate-safe future*, available at: https://www.oecd.org/fossil-fuels/.

[15] CPI, 2019, Global Landscape of Climate Finance 2019 [Barbara Buchner, Alex Clark, Angela Falconer, Rob Macquarie, Chavi Meattle, Rowena Tolentino, Cooper Wetherbee]. Climate Policy Initiative, London, available at https://www.climatepolicyinitiative.org/wp-content/uploads/2019/11/2019-Global-Landscape-of-Climate-Finance.pdf

[16] Statista, 2020, available at https://www.statista.com/outlook/20020000/100/soft-drinks/worldwide?currency=usd [accessed 11 August 2020].

biodiversity and dilute the effectiveness of conservation efforts. Under a 2030 scenario in which subsidies harmful to biodiversity have not been reformed, the remaining global biodiversity financing gap will be US$ 210–239 billion per year (Figure 5).

FIGURE 5. Estimate of growth in financing resulting from scaling up proposed mechanisms by 2030. *(in 2019 US$ billion per year)*



Each of the financial and policy mechanisms recommended for closing the biodiversity financing gap are summarized below and are described in greater detail in Chapter 5 of the full report. The following brief descriptions include the estimated positive or negative funding flows into biodiversity conservation for each mechanism and the recommended actions needed to implement and scale up each mechanism.

1. Harmful Subsidy Reform

2019 Estimated Harmful Flow: US$ 273.9–542.0 billion per year[17]
2030 Potential Harmful Flow: US$ 0–268.1 billion per year
(assuming most harmful subsidies reform scenario)

Subsidies are fiscal policy tools used by governments that aim to benefit a specific population or sector through production support, income support, or reduced costs of inputs. Subsidies deemed harmful to biodiversity are those that induce production or consumption activities that exacerbate biodiversity loss, particularly important within the agriculture, fisheries, and forestry sectors. Some of these damaging activities include deforestation, overexploitation of fish stocks, and pollution from excessive fertilizer use. Agricultural subsidies that focus solely on increasing crop output have led to actions that are degrading natural resources and biodiversity. This report does not take a position on whether subsidies are inherently positive or negative for the economy or for the functioning of markets. Instead, this report focuses on proposing pathways that allow governments to reform existing production subsidies and deliver them in a manner that has a net positive effect on biodiversity rather than damaging biodiversity, while at the same time meeting the government's other social and economic objectives.

RECOMMENDATIONS

- National and subnational governments should immediately begin the process of redesigning, reducing, or redirecting existing subsidies away from incentivizing actions that harm biodiversity to those that explicitly support it or, in the very least, result in no harm to biodiversity.
- Governments should consider the impacts on the poor and marginalized groups in society when designing subsidy reforms, ensure a phased and equitable transition where negative social impacts of subsidy reform are mitigated as much as possible, and ensure that groups that benefit from the status quo understand and support the impetus behind subsidy reform.
- International organizations (including academia and NGOs) should implement a coordinated research program that delivers a common understanding of what constitutes a harmful subsidy and the ways in which it can be realigned to achieve positive outcome for biodiversity. The OECD methodology on identifying, assessing, and reforming subsidies provides a good starting point for this exercise.
- Donor governments and multilateral development banks should provide financial and technical support to the governments of less developed economies in reforming harmful subsidies.
- Businesses should recognize the global momentum and support behind harmful subsidy reform and should review, identify, disclose, and implement their commitments to transition away from dependence on harmful subsidies. They should also engage with and actively support government efforts to reform and redirect harmful subsidies.

[17] Flows denoted as positive as they are listed as harmful to biodiversity.

2. Investment Risk Management

As described in a previous section and in the full report, this report does not provide either current or future estimates in this area due to the lack of available data.

Investment risk management described in this report involves actions taken by financial institutions to understand and manage the risks to biodiversity from their investments. The report reviews a range of both mandatory and voluntary investment risk management practices, many of which are becoming more established in mainstream investing. These include a number of screening tools and standards that investors are adopting that enable them to review risks and make informed decisions to avoid investments that may have negative impacts on biodiversity, or to invest in areas that have positive biodiversity impacts. Given the enormous scale of global capital markets and the trillions of dollars invested in infrastructure, energy, transportation, extractives, and other potentially damaging projects, the mainstreaming of these biodiversity-related risk management practices in conventional financial markets presents an enormous opportunity to prevent negative impacts to biodiversity.

RECOMMENDATIONS

- Financial institutions should take a lead role in understanding and avoiding harm to biodiversity from the deployment of private investment capital. They should recognize the reputation, regulatory compliance, and investor demand risks from continuing to operate under the status quo, as well as the potential revenue opportunities from proactive biodiversity risk management. They should manage these risks through systemic changes to internal structures, incentives, policies, and metrics to ensure that biodiversity conservation is integrated into all investments.
- Financial institutions should disclose the biodiversity impacts of their investments via appropriate disclosure frameworks and require the same of companies in their investment portfolio.
- Financial institutions should build their capacity to assess how investment decisions can lead to biodiversity loss and manage the associated biodiversity risks.
- Financial regulators and fiduciaries should adopt a broader understanding of fiduciary duty that is not narrowly limited to maximizing short-term financial returns, but that also accounts for the positive and negative collateral effects of investments on those to whom a fiduciary duty is owed. A revised understanding should allow for consideration of nonfinancial benefits to clients, including the value of biodiversity, as proper components of the fiduciary's analysis of the merits of competing investment choices.
- Governments should develop and implement policies and legislation that require financial institutions to implement and report on biodiversity risk disclosure frameworks.
- International organizations, financial institutions, and NGOs (including academia) should develop metrics, methodologies, and platforms for sharing data on the impacts of investments on biodiversity.

3. Biodiversity Offsets

2019 Estimated Flow: US$ 6.3–9.2 billion per year
2030 Potential Flow: US$ 162.0–168.0 billion per year

Biodiversity offsets are the last option in the mitigation hierarchy (avoid, minimize, restore, and offset), a biodiversity protection policy mandated by governments to compensate for unavoidable damage to biodiversity by a development project when the cause of damage proves difficult or impossible to eliminate. The CBD has adopted a decision calling for the universal application of the mitigation hierarchy and biodiversity offsets.[18] Offsets should be implemented once development projects have done their utmost to avoid and minimize adverse environmental impacts. Given the rapid expansion of urban centers and the associated development of infrastructure, biodiversity offsets are a way for biodiversity to receive increased financing and protection. Under an offset policy, any biodiversity lost to development must be compensated for such that there is a net gain or, at least, no net loss of biodiversity. Currently, 42 countries have biodiversity offset policies in place, but there is evidence of enforcement from fewer than 20 % of these countries. Estimates for scaling up biodiversity offsets in this report are based on both full implementation of existing policies by these 42 countries and expanded application of offset policies in countries based on an analysis of anticipated development impacts globally by 2030.

RECOMMENDATIONS

- Governments with existing biodiversity offset and mitigation hierarchy policies should strengthen enforcement using supporting tools such as regulation, planning processes, and legislation. Governments without existing policies should immediately develop, implement, and enforce them to, first, avoid and minimize impacts to critical natural habitat and, second, implement biodiversity offsets to achieve no net biodiversity loss or, where possible, net gain.
- National and subnational governments should conduct (and make public to authorities, developers, and communities) spatial landscape planning to identify areas of critical habitat, made publicly available, to influence development planning processes and underpin the effective application of the mitigation hierarchy.
- National and subnational governments should require project developers to conduct long-term monitoring and reporting on biodiversity offsets to ensure they are achieving the desired outcomes.
- Financial institutions should strengthen the implementation of biodiversity-related performance standards within their investments and mandate that projects they invest in should demonstrate, via reporting and verification, no net loss of biodiversity or, where possible, net gain. Investments should be designed to allow adequate funding for long-term monitoring of the offset after the development has been completed.

[18] Conference of the Parties to the UN Convention on Biological Diversity, 14th meeting, Sharm El-Sheikh, Egypt, 2018, available at https://www.cbd.int/decisions/cop/?m=cop-14.

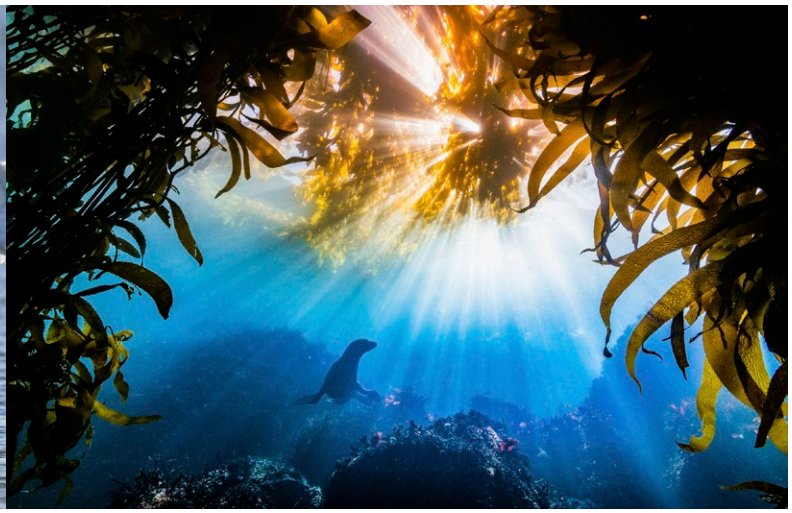
4. Domestic Budgets and Tax Policy

2019 Estimated Flow: US$ 74.6–77.7 billion per year
2030 Potential Flow: US$ 103.0–155.4 billion per year

Governmental budgets are currently the main source of financing for biodiversity conservation, representing 54–60 % of total funding recorded and presented in this report. However, while prioritizing government budget expenditure for biodiversity, raising revenue from taxation may be insufficient to close the biodiversity financing gap in 2030. This report describes several categories of special taxes, fees, levies, and other innovative fiscal measures that both national and subnational governments can impose to either increase revenue to fund biodiversity protection or to incentivize or disincentivize activities that benefit or degrade biodiversity. To ensure that these additional revenues are devoted directly to biodiversity conservation (and not just diverted to the general budget), the report further recommends that governments restrict or "earmark" these funds to the biodiversity conservation uses for which they were created.

RECOMMENDATIONS

- Governments should develop and implement new fiscal policies or increase the effectiveness of existing ones that increase domestic spending on biodiversity conservation and disincentivize activities that are harmful to biodiversity. Such policies should be designed and supported by, and embedded within, multiple departments of government—particularly finance, environment, and natural resource ministries and other government agencies.
- National and subnational governments must improve the efficiency, effectiveness, tracking, and reporting on the deployment of revenues raised for biodiversity conservation.
- International finance institutions (such as the World Bank, IMF, and others) should increase financial support for biodiversity and lend their support to countries' efforts to establish taxes and fees whose revenue is allocated to conservation activities.



5. Natural Infrastructure

2019 Estimated Flow: US$ 26.9 billion per year
2030 Potential Flow: US$ 104.7–138.6 billion per year

The protection of natural infrastructure serves a dual purpose. First, it maintains healthy ecosystems for the long term; second, it delivers ecosystem services to human populations, supporting livelihoods and communities. In this report, natural infrastructure investments are described through the lens of watershed protection programs. In recent years, urbanization and the resulting increase in demand for resources from cities have elevated the importance of water supply and watershed protection, while the growing risk from extreme weather events and sea-level rise has highlighted the importance of coastal protection. Natural infrastructure funding is almost entirely provided by public entities through grants and contracts for watershed protection, but there are emerging areas that include both public and private sector investment, including user-driven watershed investments, water quality offset trading, and others. Additionally, there is growing evidence that the relative costs of protecting and managing natural water supplies and flood control can be cheaper than traditional engineering approaches.

RECOMMENDATIONS

- National, subnational, and local governments should require the evaluation of natural infrastructure alternatives in all infrastructure projects and, where feasible and cost-effective, they should require its use in public and private development projects through contracts and concessions, procurement processes, and regulation.
- Private sector corporations operationally dependent on water should, along with national and subnational governments, participate in developing, financing, implementing, and maintaining natural infrastructure for the watersheds they operate in.
- Insurance companies and financial institutions should incorporate the benefits of ecosystem services provided by natural infrastructure in their risk modelling. The results should be factored into decisions about capital costs and be reflected in premiums that incentivize the use of natural infrastructure in line with risk modelling as well as international and national standards and processes.
- International organizations, such as research institutions, NGOs, and standard setting bodies, should develop robust evidence on the costs and performance of different forms of natural infrastructure. This should be carried out in tandem with the process of developing international standards, tools, metrics, and data collection processes for natural infrastructure.
- Entities engaged in curriculum development, professional certification, and continuing education of engineers, planners, and other professionals should require appropriate training that builds awareness and capacity of how to assess both the cost effectiveness and the environmental benefits of designing, developing, and maintaining natural infrastructure projects to meet human needs.

6. Green Financial Products

2019 Estimated Flow: US$ 3.8–6.3 billion per year
2030 Potential Flow: US$ 30.9–92.5 billion per year

Green financial products are a collection of financial instruments, primarily debt and equity, that facilitate the flow of investment capital into companies and projects that can have a positive impact on biodiversity. This report discusses a range of green financial products that can channel financing toward green investments that produce environmental benefits. The report discusses the role of green bonds, sustainability-linked loans, and private equity funds in supporting biodiversity. The report also notes emerging and innovative new developments in green finance such as environmental impact bonds, insurance products, and the growing roles that governments are playing through finance facilities and specific efforts to incentivize increased private investment.

RECOMMENDATIONS

- Governments should work with private investment organizations to develop, implement, and enforce clear guidance, incentives, penalties, and disclosure requirements that enable and encourage investments that protect biodiversity. Governments can do this through two pathways: first, by creating opportunities for new markets using policies, structures, and regulation; second, through incentivizing flows of additional, new investment of private capital.
- National and regional governments should leverage their ability to raise capital from private markets, via issuance of green debt, as a way to increase the amount of upfront capital available for investment in biodiversity conservation.
- Investment organizations and private finance institutions should develop and enforce internal policies establishing internal performance metrics that incentivize the structuring, offering, and use of financial products with explicit benefits to biodiversity.
- Governments and private financial institutions should, as a means to catalyze the flow of capital to biodiversity, develop and implement industry standards and mechanisms that ensure accountability, transparency, and verification for financial transactions that are meant to positively impact biodiversity.
- Multilateral development banks, development finance institutions, and private foundations should provide early-stage, concessionary, or risk mitigating financing that catalyzes the development of projects and that complements local conservation efforts.

Governments can play important roles through finance facilities and specific efforts to incentivize increased private investment.

7. Nature-Based Solutions and Carbon Markets

2019 Estimated Flow: US$ 0.8–1.4 billion per year
2030 Potential Flow: US$ 24.9–40.0 billion per year

As countries move toward development of new programs to support delivery of their national climate goals (specifically through their Nationally Determined Contributions, or NDCs), there is a growing emphasis on the protection and restoration of forests and other biodiversity-rich ecosystems in what are called Nature-Based Solutions (NBS) and Natural Climate Solutions (NCS). Indeed, recent science indicates that NCS can provide up to a third of the cost-effective, near-term mitigation potential needed by 2030 to stay below 1.5 degrees Celsius of warming. The report describes several pathways countries might take to develop one or more NBS/NCS strategies as part of meeting their NDC goals, and it provides estimates of the amount of funding these efforts could generate that will have direct biodiversity benefits. Additionally, a number of countries are developing national (or, in some countries, subnational or jurisdictional) policies that use carbon pricing as part of their overall climate strategies. These policies typically take the form of direct carbon taxes or the creation of a regulated cap-and-trade program in which greenhouse gas emitters are capped and regulated through programs that allow the creation and trading of carbon credits. The active trading of these credits (which are issued in metric tons of carbon dioxide equivalent [tCO_2e]) enables creation of a robust carbon market. When countries allow the creation of carbon offsets from forest practices or other natural and land-based projects, the sale of these credits can create an important source of funding for forest and biodiversity conservation.

RECOMMENDATIONS

- National governments should include one or more nature-based solution (NBS) strategies, such as reforestation, within the next round of Nationally Determined Contributions (NDCs) commitments under the Paris Agreement.
- Governments with existing carbon markets should allow the use of offsets from agriculture, forests, and other land uses. Governments without existing carbon markets should enact new carbon pricing programs that include carbon taxes, cap-and-trade programs, or other climate policies that price carbon emissions and allow for the use of carbon offsets from agriculture, forests, and other land use practices.
- Governments of forest-rich and biodiversity-rich countries should enact policies to increase implementation and scalability of national and jurisdictional REDD+ programs, including the opportunity to nest existing REDD+ projects to maximize scale.
- The governments and standard-setting bodies that govern both compliance (cap-and-trade) and voluntary carbon markets should require the use of, and adherence to, standards that include biodiversity and social safeguards for all forestry and land use projects, and for NBS. These bodies should also improve the transparency and quantifiability of biodiversity within all existing and new standards that apply to forests and natural systems.

8. Official Development Assistance (ODA)

2019 Estimated Flow: US$ 4.0–9.7 billion per year
2030 Potential Flow: US$ 8.0–19.4 billion per year

Official development assistance (ODA) is broadly defined as aid, either disbursed by countries directly or through multilateral institutions, designed to support and promote the economic development and welfare of developing countries. It includes concessional finance, grants, and the provision of technical assistance. In the context of the Convention on Biological Diversity (CBD), the 2010 Aichi Targets called for a "substantial increase" in resources available from all sources to support the implementation of the Convention. In 2012, the Parties adopted a decision calling on donor countries to double foreign aid flows for biodiversity by 2015 relative to 2010 levels, and at least maintain them at that level through 2020. That target has essentially been met by donor countries. The report recommends that ODA funding to biodiversity-rich countries double again between 2020 and 2030, with the new funding primarily targeted to supporting country efforts to develop National Biodiversity Finance Plans and implement the nationally appropriate suite of mechanisms described in this report to ensure that each country meets its biodiversity finance needs.

RECOMMENDATIONS

- Foreign aid donors should recommit to double ODA flows again by the year 2030 relative to 2019 levels to support the implementation of the post-2020 Global Biodiversity Framework. Provision of ODA should include biodiversity conservation as criteria, alongside existing ones such as economic development, in prioritizing countries that receive ODA flows.
- Donor governments should better deploy the increased aid to focus on the in-country enabling conditions to unlock other mechanisms discussed in this report, including the development of National Biodiversity Strategies and Action Plans (NBSAPs) and National Biodiversity Finance Plans.
- Bilateral and multilateral aid agencies should strengthen their efforts at mainstreaming biodiversity across their grant and lending portfolios.
- Bilateral donors and multilateral development banks should require reporting of results from biodiversity projects, as well as be more accountable for their application of IFC Performance Standard 6, especially with respect to the application of the mitigation hierarchy and biodiversity offsets.

9. Sustainable Supply Chains

2019 Estimated Flow: US$ 5.5–8.2 billion per year
2030 Potential Flow: US$ 12.3–18.7 billion per year

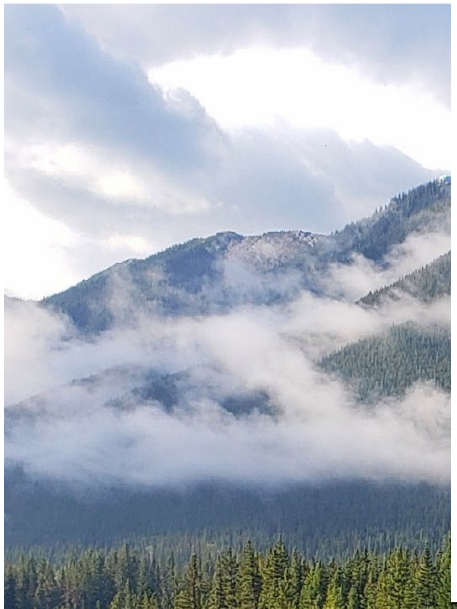
Supply chain sustainability relates to the management of environmental, social, and governance aspects of the movement of goods and services along supply chains, from producers to consumers. The historical impact of global supply chains on biodiversity has been largely negative, driven by land use change and unsustainable agricultural, forest, fisheries, and other practices associated with commodities. However, a shift toward more responsible supply chain management practices offers an opportunity to avoid harm and positively affect biodiversity, including significant corporate pledges to get deforestation out of supply chains over the last few years. This report explores a range of options to reduce negative supply chain impacts on biodiversity, including improved corporate policies and internal standards, the use of third-party sustainability standards and certifications, and direct corporate funding of sustainability improvements within their supply chains including in producer countries. The report also examines options to achieve positive impact, such as sustainable jurisdiction/landscape-level sourcing initiatives and conservation-focused management of naturally sourced ingredients. Although the report puts forth some estimates on current and projected future funding for sustainability, much of the financing on sustainable supply chains is by companies and by nature is not publicly available information. As such, the amount spent by companies on increasing sustainability of supply chains might be higher than estimated here.

RECOMMENDATIONS

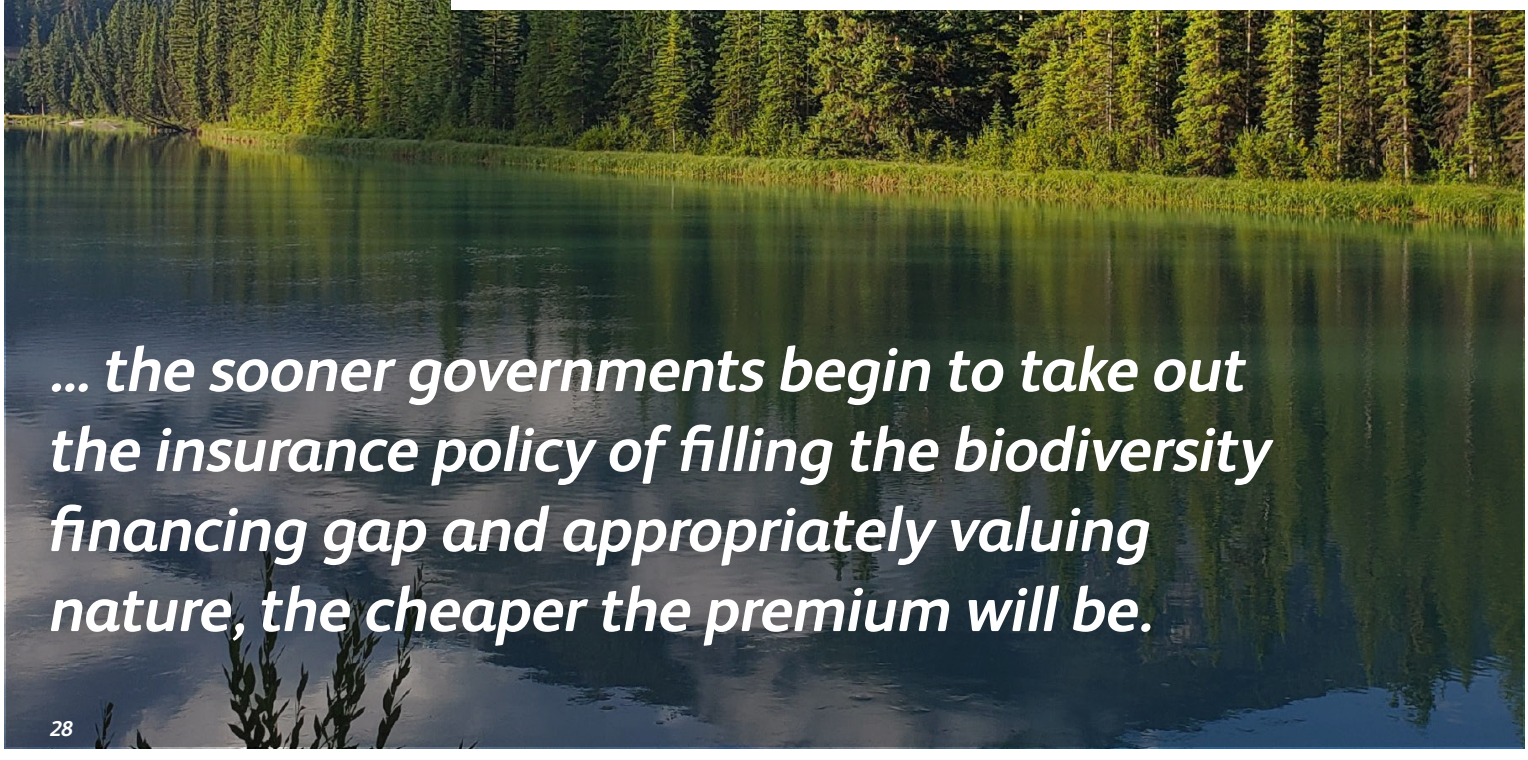
- All actors engaged in supply chains should collaborate to foster the green transformation of supply chains, with an immediate focus on soy, palm oil, cattle, and forest products, including developing and implementing production standards and improving the means of tracking products and impacts from producer to consumer.
- Governments in supplier (exporting) countries should improve the land use planning and enforce legislation and measures to reduce deforestation and conversion of other natural ecosystems. Governments should also provide both financial and technical support, including agricultural extension services, and facilitate market access for compliant producers to incentivize the sustainable production of commodities.
- Governments in buyer (importing) countries should leverage their market and diplomatic powers to encourage exporting country governments to enforce sustainable practices.
- Consumers should, with support from governments and companies, educate themselves about the environmental impact of their consumption behavior and subsequently use their spending power to demand greater transparency and improved practices, such as deforestation-free products, via increased use of ecolabels and certification systems by companies and brands to support biodiversity-positive practices in supply chains.
- Large buyers with significant influence in supply chains should develop and implement green procurement policies and standards; work within the supply chain to monitor, track, and verify biodiversity impacts to assure that primary producers are adhering to the required sustainability standards; and work with governments to incentivize, support, and require local producers and intermediaries in the supply chain, who operate at a more local or jurisdictional scale, to transition away from unsustainable practices toward those that support biodiversity.
- Countries should increase efforts through the international architecture, specifically the WTO, to develop green trade agreements that facilitate and incentivize increased trade in commodities produced without conversion of natural habitats.

CONCLUSION

This report highlights the risks associated with biodiversity loss, makes a compelling case for appropriately valuing nature in our economies, and delivers a specific contribution to the negotiations on a resource mobilization strategy as part of the Post-2020 Global Biodiversity Framework under the UN CBD process. It focuses foremost on the need for all countries to take increased actions to adopt environmental and economic policies aimed at protecting biodiversity and reducing harmful practices. The report further highlights the potential for the private sector to make a major contribution to financing nature conservation but is clear that this potential will only be realized if governments create the conditions that make that investment profitable.



The analyses underlying this report are based on best available data but recognize that, due to the complexities and interconnectedness of nature, the scale of the risks we face due to biodiversity loss are impossible to fully measure, and any valuations of natural capital are likely to be underestimates. Thus, the range of financial estimates presented in this report are imperfect. However, these uncertainties should not be an excuse for inaction. The case for protecting biodiversity, its urgency, and the policies and mechanisms needed are sufficiently clear; the sooner governments begin to take out the insurance policy of filling the biodiversity financing gap and appropriately valuing nature, the cheaper the premium will be.



... the sooner governments begin to take out the insurance policy of filling the biodiversity financing gap and appropriately valuing nature, the cheaper the premium will be.

AUTHORS

Andrew Deutz[a], Geoffrey M. Heal[b], Rose Niu[c], Eric Swanson[c], Terry Townshend[c], Zhu Li[c], Alejandro Delmar[d], Alqayam Meghji[d], Suresh A. Sethi[d], and John Tobin-de la Puente[d]

CONTRIBUTING AUTHORS

Global biodiversity background for Foreword and Executive Summary: Tom Lovejoy
Biodiversity offsets: Bruce McKenney, Jessica Wilkinson, Joseph Kiesecker, Christina Kennedy, and James Oakleaf
Financing for biodiversity conservation in urban environments: Robert McDonald
Green financial products: Patricia De Pauw, Sebastián Molina Gasman, and Alekhya Mukkavili
Harmful subsidy reform: Kara Guse
Investment risk management: Marie-Justine Labelle, Alekhya Mukkavilli, and Yasomie Ranasinghe
Natural-based solutions and carbon markets: Kelley Hamrick
Natural infrastructure: Alekhya Mukkavilli
Official development assistance: Marie-Justine Labelle, Yasomie Ranasinghe, Everett Sanderson, and Jim Stephenson
Sustainable supply chains: Kara Guse, Yasomie Ranasinghe, and Jim Stephenson

TECHNICAL ADVISORY GROUP

Marco Albani (Independent Advisor), Frank Hawkins (International Union for the Conservation of Nature), Onno van den Heuvel (UNDP Biodiversity Finance Initiative), Katia Karousakis (Organisation for Economic Cooperation and Development), Margaret Kuhlow (WWF International), Kenneth Lay (Rock Creek Group), Aileen Lee (Gordon and Betty Moore Foundation), David Meyers (Conservation Finance Alliance), Andrew Mitchell (Global Canopy), Mark Opel (Campaign for Nature), and Kyung-Ah Park (Goldman Sachs)

REVIEWERS/CONTRIBUTORS

Justin Adams (Tropical Forest Alliance, World Economic Forum), Géraldine Ang (Organisation for Economic Cooperation and Development), Ulrich Apel (Global Environment Facility), Marco Arlaud (UNDP Biodiversity Finance Initiative), Mohamed Imam Bakarr (Global Environment Facility), Larry Band (Independent Consultant), Andrea Barrios (Rockefeller Foundation), Rafaello Cervigni (The World Bank), Gretchen Daily (Stanford University), Nick Dilks (Ecosystem Investment Partners), Mafalda Duarte (Climate Investment Funds, The World Bank), Yasha Feferholtz (UN Convention on Biological Diversity), Monica Filkova (Climate Bonds Initiative), Charlotte Kaiser (The Nature Conservancy), Kerry ten Kate (Natural England), Amanda Kelsten (Bloomberg), Sean Kidney (Climate Bonds Initiative), Linda Krueger (The Nature Conservancy), Gemma Lawrence (Loan Market Association), Richard Lawrence (Overlook Investments), Winsor J. Lee (Bloomberg NEF), Li Nuyun (China Green Carbon Fund), Lu Xiankun (LEDECO Centre), Pascal Martinez (Global Environment Facility), Adam C.T. Matthews (The Church of England Pensions Board), Tom Mitchell (Cambridge Associates), Jen Molnar (The Nature Conservancy), Stefano Pagiola (The World Bank), Edward Perry (Organisation for Economic Cooperation and Development), Alexandra Pinzon-Torres (London School of Economics), Kelly Racette (The Nature Conservancy), Massimiliano Riva (United Nations Joint SDG Fund), Giovanni Ruta (The World Bank), Lynn Scarlett (The Nature Conservancy), Hugh Searight (The World Bank), Andrew Seidl (UNDP Biodiversity Finance Initiative), Priya Shyamsundar (The Nature Conservancy), Krista Tukiainen (Climate Bonds Initiative), Hannah Vanstone (Loan Market Association), Kurt Vogt (HPL LLC), Mike Wironen (The Nature Conservancy), Tracy Wolstencroft (National Geographic), and Zhao Xiaolu (Environmental Defense Fund, China)

DISCLAIMER

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Jonathan Tsao

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[a] The Nature Conservancy; [b] Columbia University; [c] The Paulson Institute; [d] Cornell University.

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The Nature Conservancy

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Address: 4245 North Fairfax Drive, Suite 100, Arlington, VA 22203-1606
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Cornell Atkinson Center for Sustainability

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Address: 200 Rice Hall | 340 Tower Road, Cornell University, Ithaca, NY 14853
Website: www.atkinson.cornell.edu; *Twitter:* @AtkinsonCenter