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FOREST DECLARATION ASSESSMENT

Sustainable Production and Development

Theme 2 Assessment

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THEME 2

SUSTAINABLE PRODUCTION AND DEVELOPMENT

Theme 2 of the Forest Declaration Assessment explores the economic sectors and activities that contribute to and drive deforestation and forest degradation, including agriculture, extractive industries, infrastructure, and other aspects of economic development. This report builds on previous NYDF Progress Assessment reports on NYDF Goal 2 (agricultural commodities), Goal 3 (extractive industries and infrastructure), and Goal 4 (sustainable livelihoods). This review aligns with corporate targets to end deforestation from agricultural commodity production by 2025, a crucial milestone for limiting temperature rise to below 1.5°C.

The Forest Declaration Assessment (formerly the New York Declaration on Forests (NYDF) Progress Assessment) is an independent, civil society-led initiative to assess progress toward the global goals of halting deforestation and restoring 350 million hectares of degraded land by 2030 as set out in international declarations such as the New York Declaration on Forests (2014) and the Glasgow Leaders' Declaration on Forests and Land Use (2021). Globally, terrestrial and coastal ecosystems including savannas, grasslands, scrublands, and wetlands are all under threat of conversion and degradation. Countering this threat for all ecosystems is essential to meeting global climate and biodiversity goals. This annual assessment of global progress for 2022, however, focuses specifically on forest ecosystems. It is published as a set of four reports covering different themes: Overarching forest goals, Sustainable production and development, Finance for forests, and Forest governance.

Achieving global mitigation results in line with the aim of limiting global temperature rise to 1.5°C, as articulated in the Paris Agreement, will require a drastic reduction in natural forest loss and degradation and a commensurate increase in restoration and reforestation activities, which must be pursued through equitable and inclusive measures. Nothing less than a radical transformation of development pathways, finance flows, and governance effectiveness and enforcement will be required to shift the world's forest trajectory to attain the 2030 goals. The 2022 Forest Declaration Assessment evaluates recent progress toward the 2030 goals and answers the question: ***"Are we on track?"***

KEY MESSAGES

With only eight years left to achieve the 2030 forest goals and three years left to achieve private sector targets to eliminate deforestation from agricultural supply chains by 2025, the most recent global deforestation rates show that we are not on track. Efforts to end deforestation from commodity production have achieved important but insufficient reductions: Commodity-driven tree cover loss declined by 6 percent in 2021 compared to previous years (2018-20), but deforestation rates are still higher than in any year before 2016 and is far from the trajectory (20% reduction per year) needed to reach the 2025 target. Available evidence demonstrates that global economic development is not yet on a sustainable pathway. The pace and scale of public and private action must be rapidly accelerated to meet the 2025 and 2030 forest goals.

Are governments on track?

Almost all national governments have adopted ambitious forest goals under the Sustainable Development Agenda 2030 indicating broad alignment with the aim of achieving sustainable production and development. Dozens of developing countries have also developed forest strategies in the context of REDD+[a], laying the groundwork for important reforms and in some cases also driving important policy changes. In most cases, however, these programs have not yet yielded a reduction in deforestation, and only a handful of countries have received payments for forest emission reductions.

In most countries, governments have yet to make the bold sectoral reforms needed to incentivize the sustainable use and protection of forests, and to disincentivize their destruction.[1] There is limited transparency on how policymakers integrate forest goals into their decision making, and how they seek to avoid and mitigate forest risks across economic sectors. Land use policies, such as fiscal incentives, environmental and social impact assessments, and protected area regulations, often fail to integrate forest concerns, have loopholes in their design or are weakly enforced. Even governments that have adopted “green growth” agendas still struggle to invest in economic growth that is aligned with forest goals.

Poverty reduction is often a primary aim of economic development approaches and can also lead to reduced deforestation and forest degradation, with the right enabling conditions and targeted incentives. Interventions such as community forestry, payments for environmental services schemes, or extension services for farmers can address both problems simultaneously. However, there are very few examples of government-led poverty reduction programs that both prioritize forest impacts and have been implemented at scale. One analysis of 23 countries found that most have community or collective forestry schemes in place, but only a few provide robust land tenure or promote economic development.[2]

Are companies on track?

Despite real efforts and advances by some industry-leading companies, the agriculture sector has not made sufficient progress in reducing deforestation from agricultural commodity production. Since the first NYDF Progress Assessment report in 2016, we have seen little progress removing deforestation from supply chains (NYDF Goal 2), and the transformative potential of voluntary company action has not yet been realized. To date, only a quarter of major global companies in the sector have announced a clear, comprehensive, and ambitious policy to eliminate deforestation from their supply chains – and of those that have, only a few have made significant progress on implementation. Less than 20 percent of companies disclosing to CDP report near complete compliance with their zero deforestation commitments.

Corporate action and transparency related to forests also remains limited in the extractives sector. In response to investor demand, most mining companies have now adopted some form of corporate

[a] REDD+: reducing emissions from deforestation and forest degradation, and fostering conservation, sustainable management of forests, and enhancement of forest carbon stocks

social responsibility or environmental, social, and governance approach, but these frameworks rarely include an explicit focus on forests. Progress among leading companies on indicators of "responsible mining" has slowed since 2020 compared to 2018-20. Few companies have adopted voluntary mining sector sustainability standards that require them to address their indirect and cumulative forest impacts, as well as their direct impacts. The mining sector recently made positive strides by adopting policies and standards that address biodiversity impacts, but overall, transparency and actions to address forest impacts still lag significantly behind the agriculture sector.

Are grassroots actors on track?

Indigenous peoples and local communities (IPs and LCs) are at the forefront of grassroots environmentalism, despite the significant risks they face. IPs and LCs often work together with civil society organizations, smallholder farmer coalitions, and women's networks to combat threats to forests from development projects, extractives, or agricultural expansion. These actors employ various forms of social resistance, but with limited success – only 1 in 10 cases of bottom-up mobilization against environmentally destructive and socially conflictive projects are successful in stopping their target project. However, these successes come at a cost: 200 land and environmental defenders were killed in 2021, and the mining and extractives sector is consistently ranked as one of the deadliest for defenders.[3]

RECOMMENDATIONS

To ensure that 2025 and 2030 do not pass as 2020 did—with limited progress toward global forest goals—governments, companies, and civil society must collaborate to accelerate forest action, supported by transparency and accountability.

The Forest Declaration Assessment Partners urge the endorsers of the Glasgow Leaders' Declaration, as well as other pledgers, to ensure full transparency on the implementation of pledges, so that progress can be tracked and pledgers held accountable. Pledgers must all set clear interim milestones and provide publicly accessible reporting.

Public, private, and grassroots actors must prioritize collaboration to leverage relative roles and strengths to meet the 2025 target for commodity-driven deforestation. Where certain geographies and supply chains have achieved reductions, the credit can usually be shared between government mandates, company action, and civil society and grassroots initiatives. All actors should accelerate implementation of multifunctional landscape and jurisdictional programs that take an integrative, inclusive, and collaborative approach to addressing forest risks and impacts while driving sustainable economic growth.

Governments must carefully consider whether voluntary action is a viable foundation to achieve the 2030 forest goals, and how the role of mandatory action, disclosure, and accountability should be increased. Despite the exceptional success of a few privately led initiatives—notably the Amazon Soy Moratorium, which has led to lasting and substantial deforestation reductions—voluntary actions alone have not sufficiently shifted the trajectory of forest loss.

- To meet their own voluntary pledges and targets, governments should adopt and enforce stronger mandates for forest protection and sustainable management. Interventions could include binding due diligence regulations and mandatory disclosure, moratoria, increased regulation of protected areas, and recognition and respect for Indigenous territories including mandatory Free, Prior and Informed Consent (FPIC). These mandates should be robust and science-based, covering all forest-risk commodities, legal and illegal deforestation, and addressing human rights and IPs and LCs' rights.
- The critical role of global commodity trading companies, which source and trade a disproportionate volume of forest-risk commodities, must be recognized and leveraged to achieve concrete progress at scale. Governments should implement regulations and legislation targeting these actors, complemented by clear conditions for and from financial institutions.

- Governments should apply a forest lens to interventions designed to increase prosperity and reduce poverty; "greening" poverty interventions can increase their effectiveness by maintaining and improving the contribution of forest ecosystem services to rural livelihoods.
- Across the extractive, infrastructure, and agricultural sectors, regulations should mandate that forest risks identified for any development project must be managed by applying the mitigation hierarchy, with the first step – avoidance – applied as much as possible, accounting for other priorities for sustainable development. Governments should also enforce strict "no-go" zones for extractive industries and infrastructure in high-value forest ecosystems.
- For extractive industries, governments should also strengthen the prospecting, exploration, and mining licensing processes. Environmental and social impact assessments should be required to be conducted earlier in the mining life cycle and to assess indirect and cumulative project impacts.
- Across all sectors, governments must also empower civil society, smallholders, and, in particular, IPs and LCs who have traditionally been the strongest constituencies for forests. They need to ensure the meaningful participation in decision-making, design, and implementation processes by affected rights-holders about their customary forest lands and livelihoods ensuring their right to FPIC, as well as the participation of organizations who advocate for the rights of nature.

Companies need to urgently increase the scope and stringency of corporate action, whether voluntary or mandated. Companies who wish to continue leading the vanguard toward the 2025 and 2030 forest goals should advocate at local, national, and international levels for holistic approaches to addressing deforestation, where corporate action is enabled and supported by appropriate legislative and policy frameworks, trade standards, and financial instruments and incentive structures.[4]

- Agricultural companies should strive to follow the best available guidance for removing deforestation from their supply chains, such as that provided by the Accountability Framework, and should adopt best practices set by sustainability standards.
- Sectoral bodies like trade and commodity associations should expand their efforts to include domestic markets and small- and medium enterprises into the zero-deforestation and zero-conversion supply chain movement to reach a critical share of market coverage for all forest-risk commodities.
- Extractive companies, and those sourcing from them, should adopt biodiversity commitments and policies that explicitly state that forest impacts from company operations at and beyond the mine site, and company-wide, must be addressed using the mitigation hierarchy. They must then embed the necessary processes and mechanisms in their standard operations to realize these commitments, including monitoring and reporting systems.
- Mining sector sustainability schemes should require site operators and downstream purchasers to assess and manage not just the direct forest impacts of extraction, but the indirect and cumulative as well.
- Companies in the extractives supply chain should also consider the opportunities of conducting forest conservation and restoration activities, through a nature-based solutions lens, to mitigate business risks, achieve company climate and biodiversity targets, and provide benefits to affected stakeholders in line with Forest-Smart Mining guidance.

INTRODUCTION

Why look at sustainable production and development?[b]

Global demand for soft commodities like food and timber, and for mined commodities like fossil fuels and mined materials, continues to drive expansion of agriculture, extractive industries, and other land uses into forests. The world economy relies on this unconstrained flow of commodities, extracted in many cases from forested land in developing and emerging economies, to fuel global and domestic supply chains. For example, international export demand for agricultural and forestry commodities is responsible for 20-25 percent of tropical deforestation, while the remainder is driven by domestic demand in developing countries (**Figure 1**).[5] The groups most affected by the damage — poor populations and vulnerable local communities—are pushed further into the forest, or to rapidly urbanizing areas with a lack of alternative options for local economic development.

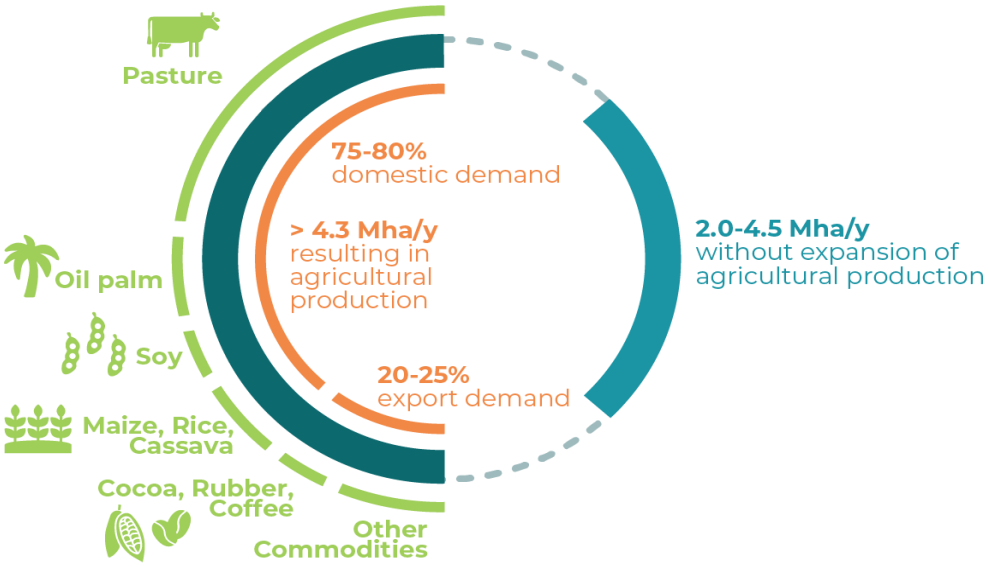
Forests are under threat not only from global markets, but also from growing demand due to populations in forest areas and urban centers. Billions of people, particularly Indigenous Peoples and local communities (IPs and LCs), rely on forests for their subsistence or pursue small-scale commercial activities that sustain livelihoods (e.g., collecting fruits and timber) or for small-scale commercial activities (e.g. traditional shifting cultivation, farming, mining).[6] These activities can lead to deforestation or permanent degradation when demand pressure outpaces the rate of regeneration.

The largest driver of deforestation is the agriculture sector. In 2021, the production of agricultural commodities, especially palm oil, soy, and beef, was responsible for nearly 6 million hectares of permanent deforestation. After agricultural commodity production, the greatest drivers of deforestation are forestry and shifting cultivation, which cause temporary tree cover loss of 7 and 6 million hectares, respectively.[c] [7] A recent study[8] found that 35-55 percent of tropical forest land cleared for agriculture is not immediately put into production and remains unused for at least a few years (see **Figure 1**). This could be due to land speculation, unsuitability of the land for cultivation, issues related to tenure or simply market fluctuations that make farming financially unattractive.

Figure 1. Agriculture-driven deforestation

[b] In the context of this report, *sustainable development* means that forests are sufficiently valued for their contribution to human well-being and ecosystem services as countries also pursue economic growth and social inclusion (building on the UN definition that sustainable development "meets the needs of the present without compromising the ability of future generations to meet their own needs"). Similarly, *sustainable production* denotes production practices and approaches that maintain and regenerate forests' contributions and services for current and future generations.

[c] Shifting/swidden agriculture: traditional practice that clears forest land for short-term crop production before moving on and allowing forests to regenerate, with varying effects on forests depending on the time fallow areas are given for regeneration and the type of clearing techniques used



Source: Reproduced from Pendrill, et al. 2022

Deforestation is often enabled by the establishment of infrastructure, which intentionally or unintentionally opens up access to forests. The gravest forest risk comes from so-called megaprojects, which combine multiple types of transportation and energy infrastructure, along with sites of agricultural commodity production, natural resource extraction, and planned urbanization. Such projects are currently underway or planned in all major tropical forest regions, such as the Amazon, the Congo Basin, Indonesian Borneo and Papua, and the Mekong Delta.[9]

A major contributor to infrastructure expansion is the extractives and mining sector, which is poised to grow in the coming decades. The growth is largely in response to rising demand for materials required for sustainable transformation in "green transition" sectors such as energy and transport. Around 20 percent of global intact tropical forests overlap with concessions for extractive industries.[10] Infrastructure and extractive industries are directly responsible for a relatively small share of deforestation, estimated between 1.3-3.3 percent in tropical forests.[11] However, when indirect impacts, such as access to infrastructure development and use and local population increase are considered, their contribution is much larger. Mining indirectly contributes 9 percent of deforestation in the Brazilian Amazon.[12]

What has been pledged on sustainable production and development?

Over the last decade, governments and companies have made countless commitments and statements indicating their intent to address deforestation from commodity production. Recent pledges for forests include, most notably, the Glasgow Leaders' Declaration on Forests and Land Use, endorsed by 145 governments during the climate summit in Glasgow in 2021, which also saw the announcement of a number of additional pledges setting ambitious targets for 2025 or 2030 (**Table 1**[d]).

One year after their adoption, it is too early to assess progress under these pledges. While all pledges propose some kind of reporting mechanism, few public disclosures have been made to date on pledge implementation. In the case of the Glasgow Leaders' Declaration, the reporting mechanism still has to be developed.

[d] Other pledges include SOS Cerrado, Retailers' Commitment on Nature, several pledges related to soy in the UK, France, Denmark, and France, as well as a pledge related to salmon.

No pledge explicitly addresses forest impacts from extractive industries and infrastructure development, though it does receive a mention in the Glasgow Leaders' Declaration. This gap highlights the relatively limited attention that these drivers have received in the international forest, biodiversity, and climate conversation to date.

Table 1. Examples of recent pledges and other initiatives related to sustainable production

Pledge/ Initiative	Description	Intermediate targets and progress reporting	Final target
Glasgow Leaders' Declaration on Forests and Land Use	145 national governments endorsed this declaration with an overarching goal to halt and reverse forest loss and land degradation by 2030. Among the six themes included in its scope are sustainable trade, development, and production; rural livelihoods; and sustainable agriculture policies and programs.	Governments joining the Forests & Climate Leaders' Partnership will take stock starting at COP 27 in 2022. The format is still unclear.	Halt and reverse forest loss and land degradation by 2030
Consumer Goods Forum's Forest Positive Coalition (launched in 2020)	A CEO-led initiative of 21 of the world's largest manufacturers and retailers who have committed to promoting and adopting sustainable business practices, including sourcing deforestation-free commodities such as palm oil, soy, paper, pulp and fiber-based packaging, and beef, and ensuring alignment with the CGF Priority Industry Principles against forced labor.[13]	Members chose to publicly report against 58 Key Performance Indicators (KPIs), while also defining their own company milestones. The annual report provides a detailed overview of members' individual performance, currently disclosing on 73% of KPIs.	Transforming production landscapes, in areas equivalent to our collective production base footprint, to forest positive by 2030
Agricultural Commodities Companies: Traders' Statement	12 companies, including traders with a major global market share in commodities such as soy, palm oil, cocoa and cattle, plan to lay out a shared roadmap for enhanced supply chain action consistent with a 1.5 degrees Celsius pathway.[14] Key areas of focus include enabling policy environments, transparency on scope 3 emissions and indirect supply chains, and improving livelihoods for farmers.	N/A	By November 2022, the group plans to present a roadmap for enhanced supply chain action.

How does this report assess progress?

We assess progress of governments, companies and grassroots actors across a range of "building blocks" that will be essential for sustainable use and protection of forests (**Figure 2**).

Figure 2. Building blocks for sustainable production and development aligned with forest goals [to be converted to figure]

	Economic strategy	Deforestation and conversion-risk sectors	Cross-cutting
Government (Public sector)	• Economic development policies	• Policies and regulations to reduce commodity-driven	• Participatory and community-led

	aligned with 2030 forest goals and Sustainable Development Goals • Poverty reduction initiatives integrating forest goals	domestic[e] deforestation and conversion, sensitive to both small- and large-scale actors • Regulations for development projects aligned with the mitigation hierarchy	approaches in design, implementation, and decision making. • Collaboration in jurisdictional or landscape approaches
Companies (Private sector)	• Investments aligned with forest and ecosystem protection and sustainable development goals.	• Zero-deforestation, zero conversion, and net positive biodiversity (including forests) commitments • Supply chain zero-deforestation, zero-conversion, and biodiversity (including forests) policies • Sectoral standards addressing direct and indrect forest and ecosystem risk and impacts • Monitoring and traceability systems and technology	
Grassroots actors (Civil society, citizens' groups, and IPs and LCs)	Participatory and grassroots efforts to influence forest and development decision-making.		

Many of the building blocks assessed here overlap with our Theme 4 report on Forest governance. Effective public policy and regulation of the agricultural and extractive sectors are important aspects of an effective forest legal framework. In addition, recognition of and respect for IP and LC rights, and participatory and inclusive forest decision-making and land use planning, are fundamental issues of equitable governance. This report only touches on those building blocks most relevant to the deforestation-risk sectors under discussion.

This report builds on and draws from previous NYDF Assessment reports complemented by updated datasets, where available, and by additional literature review. Data and analysis from CDP, Forest 500, Supply Change, and Zoological Society of London (ZSL) SPOTT are integral to assessing company progress in agriculture and the extractive industries. CDP expanded its disclosure framework in 2019 to include new sector-specific questions on forests for metals and mining and coal companies. The resulting disclosures in 2019, 2020, and 2021 provide the first insight of their kind into corporate action on reducing the forest and biodiversity impacts of these actors. Finally, the report contains illustrative examples and case studies taken from a set of country-level assessments conducted by the Forest Declaration Assessment for 13 countries[f] in 2022.

Though this report aims to assess progress globally, it contains relatively more information on tropical forests and developing countries, in part due to a trend in available data and literature. The report also emphasizes the actions of multi-national companies over national-scale companies – for example, those supplying domestic demand markets for commodities – and emphasizes supply side measures over demand side for similar reasons on data availability. Future assessments will continue to aim for more comprehensive coverage globally.

This report also focuses on forests rather than other terrestrial ecosystems. The focus on forests stems from the Forest Declaration Assessment's history and mandate as an initiative to track the NYDF and is not intended to imply that other ecosystems are less impacted by deforestation risk sectors (the Cerrado savannahs and the Great Plains´ old-growth grasslands are the largest conversion fronts outside of the Amazon[15]), nor imply that the protection and restoration of other ecosystems is less crucial to reducing the impacts of climate change and safeguarding biodiversity. Instances of the phrase "deforestation-free" throughout this report may also be interpreted to include "conversion-free" where appropriate.

[e] Measures to address imported deforestation are covered in the Theme 4 report on forest governance.

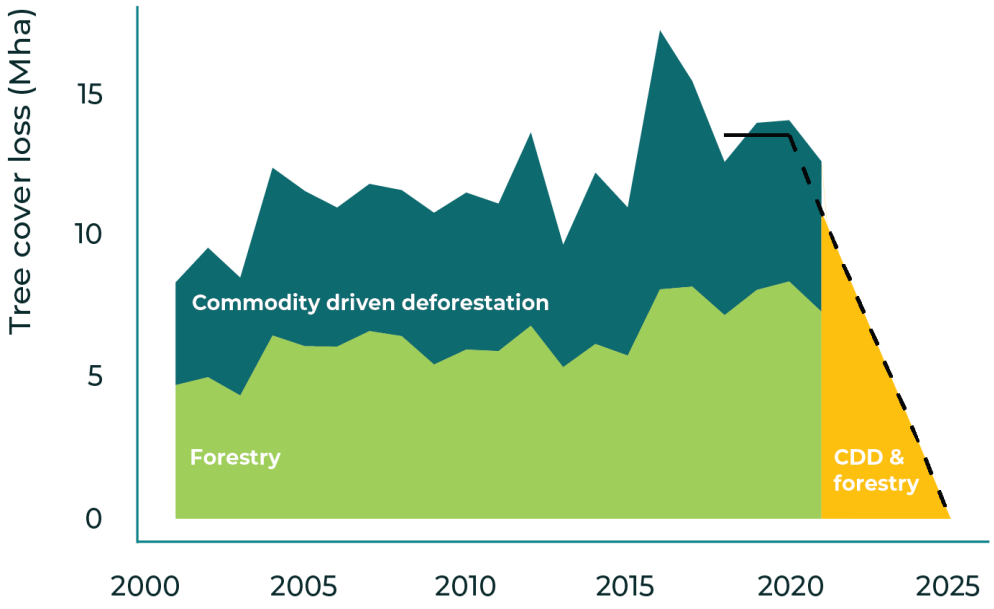
[f] Cambodia, Cameroon, Canada, Colombia, Democratic Republic of the Congo, Dominica, Ecuador, Gabon, Indonesia, Kenya, Liberia, Republic of the Congo, and Vietnam

FINDINGS

With only eight years left to achieve the 2030 forest goals, and three years left to achieve the private sector goal to eliminate deforestation from company supply chains by 2025, a look at the most recent deforestation rates shows that we are not on track: efforts to end deforestation have achieved important but insufficient reductions. Commodity-driven deforestation, which includes permanent tree cover loss from agriculture, mining, and energy infrastructure, was reduced by 6 percent in 2021 compared to the average of previous years (2018-20). Recent deforestation from these drivers was reduced compared to the record highs seen in 2016-17, but rates are still higher than in any previous year.

While the 2021 reduction is notable, it is far from the reduction needed to eliminate deforestation from agricultural supply chains by 2025. Between 2018-20, on average 6 million hectares of forest were cleared annually for commodity production. On average, this number needs to decrease by 1.2 million hectares (20 percent compared to 2021 levels) annually from 2021 through 2025, in order to reach zero hectares of commodity-driven deforestation (**Figure 2**). For every year that the 1.2 million reduction target is not met, the following years need to make up the difference.[g]

Figure 2. Tree cover loss from commodity driven deforestation compared to the pathway toward the 2025 forest goal



Source: GFW, Hansen et al. 2013, and Curtis et al. 2018, and Climate Focus projection of the pathway from 2021 to 2025 based on a target of zero gross deforestation from commodity production by 2025
Note: Commodity driven deforestation includes conversion to non-forest use primarily for commercial agriculture, but also mining or energy infrastructure.

[g] It is important to note that this linear trajectory does not consider the cut-off dates that companies, certification standards, and some regulations (e.g., the Amazon Soy Moratorium and forthcoming EU legislation) set in order to communicate and enforce which land must not have been used for cultivation.

1. Have governments advanced their efforts to achieve forest goals?

1.1 Aligning macroeconomic and development priorities with forest goals

Governments have significant influence over the use of forests, land, and resources. They can align macro-economic and development priorities with forest goals by making strategic decisions for economic sectors to minimize forest clearance and degradation - at home and abroad. Aligning forest goals and reconciling tradeoffs with other goals does not mean that all deforestation can be stopped. It means that forests' contributions and services for current and future generations are carefully valued and regenerated.

Forest goals have been widely adopted: almost all (193) national governments signed on to the sustainable development goals as part of the 2030 agenda. Many developing countries have also developed forest strategies in the context of REDD+[h], setting up cross sectoral coordination mechanisms and initiating important reforms. Through "readiness" funding from donors, more than 50 governments, mostly in tropical countries, have laid the groundwork for reforms by assessing the drivers of deforestation and forest degradation, establishing institutions for coordination and collaboration, building forest monitoring capacities, and installing systems for environmental and social safeguards. While most countries have yet to receive results-based finance (see our Finance Report), national REDD+ efforts have been instrumental in driving forest policy changes such as formalizing IPs' and LCs' land rights, reforming forest laws and regulations, and creating new participatory mechanisms.[16]

In practice, however, there is limited information available on how policy makers integrate forest goals into decision-making, whether risks are assessed and mitigated; how potential tradeoffs are weighed, and whether investments contribute to or are paired with commensurate investments for other sustainable development goals - especially economic development and poverty reduction. In most countries, deforestation driver sectors continue their business-as-usual activities that lead to forest loss, as policies fail to integrate forest concerns, have loopholes in their design, or are not appropriately enforced (see **Box 1**).[17] In most countries, governments have yet to implement the bold sectoral reforms needed to incentivize the sustainable use and protection of forests, and disincentivize their destruction.[18]

[h] REDD+: reducing emissions from deforestation and forest degradation, and fostering conservation, sustainable management of forests, and enhancement of forest carbon stocks

Box 1. Examples of government policies and their alignment with forest protection goals

Fiscal incentives: Evidence suggests that governments usually only collect a small fraction of the potential economic rent from timber.[19] For example, the Indonesian government collects about USD 272 million annually in forest sector fees, 70 percent of which come from a fee that does not consider market prices, and remains unchanged since 1999.[20] When fees are due to be paid, governments often fail to collect them or do not properly use the revenues they have collected. Corruption and the shadow economy positively influence deforestation, with INTERPOL estimating the global cost of corruption in the forestry sector to be in the order of USD 29 billion annually.

Environmental and social impact assessments (ESIAs) are required in most countries before development projects will be approved.[21] Yet the scope, timing, and implementation of these assessments are often poorly matched to the aim of forest protection, and not aligned with the mitigation hierarchy. ESIAs are often not required to consider the indirect or cumulative impacts of a mine or infrastructure project, and often occur only after the exploration phase has been completed, making them less likely to influence whether a mining license is actually granted.[22]

Protected areas can mitigate forest encroachment by extractive industries. However, many countries carve out exceptions to these restrictions for industry, and recently many protected area restrictions have been loosened. Globally, 61 percent of protected area downgrading, downsizing, and degazettement (PADDD) events are related to industrial-scale resource extraction and development (including mining).[23] Many countries have embraced PADDD to stimulate economic recovery in the wake of the Covid-19 pandemic. In 2020, Colombia implemented a "sustainable recovery" policy, which included 35 mining, oil, and electric power projects as "strategic and priority".[24] In Honduras, the Ministry of Natural Resources and Environment permitted the granting of environmental licenses online and reformed the mining law to grant tax benefits to mining companies under the pretext of the pandemic.[25] The Salonga and Virunga Parks – World Heritage sites in the Democratic Republic of the Congo – are currently threatened by oil and gas production.[26]

This is perhaps best illustrated by the sheer scale of investments into economic sectors that drive deforestation compared to sustainable investments aligned with forest goals. The Belt and Road Initiative, for example, has mobilized trillions of dollars for investments in infrastructure, energy, industrial capacity, and telecommunications that will cut across forests and other fragile and biodiverse landscapes around the world. The development strategy promoted by the Chinese government currently spans 147 countries,[i,27] and independent analyses have identified major direct and indirect environmental risks—particularly for Southeast Asia and tropical Africa.[28] In contrast, global public investments in forest goals amount to roughly USD 2.3 billion per year, covering only a small fraction of what will be needed (see the Theme 3 report on forest finance).

Even governments that have adopted "green growth" agendas for economic development still struggle to make investments that are aligned with environment or forest goals. For example, a 2021 analysis of COVID-19 stimulus spending found that countries targeting "green" investments largely missed the mark on nature.[29] A sample of ten European countries' stimulus plans, totaling EUR 500 billion, was reviewed for predicted impacts in climate and nature. Over half of nature-relevant spending was expected to be harmful for nature.[j] Meanwhile, Cambodia and Lao PDR have targeted "green growth" while opening their economies to multinational enterprises and large-scale extractive, energy, and infrastructure projects without reconciling land use trade-offs or ensuring participatory decision-making.[30] Similarly, in Ecuador, despite the rights of nature being recognized in its 2008 Constitution, oil revenue remains and will likely become an even more important backbone of the Ecuadorian state's revenue. This is in spite of significant and frequent forest degradation from oil infrastructure development, oil spills, and poor management of toxic wastes.[31]

1.2 Addressing deforestation while promoting sustainable livelihoods

Addressing poverty and deforestation for rural populations that rely on forests (or on their clearance and degradation) for their livelihoods is a complex challenge. While increases in productivity can provide higher incomes for small-scale actors like farmers and artisanal and small-scale miners, without safeguards these programs can increase risks for forests as well as the livelihoods and security of local communities. Intensification of production does not by itself lead to land sparing. Instead, by increasing profitability,

[i] As of March 2022.

[j] Nature-relevant spending includes potential impacts on forests, e.g., through subsidies or waved fees for forest-risk agriculture, wavers of forest conservation mandates, or other environmental deregulation.

intensification can incentivize expansion into new forest areas, whether clearing new cropland or opening new mine sites. Therefore, governments need to provide a suite of enabling conditions and targeted incentives to avoid any contrary effects (summarized as "PRIME" dimensions[32,k]) Specifically for artisanal and small-scale miners, evidence also suggests that mining sector policy and regulation have relatively less impact than governance improvements (e.g., protected area policies).[33]

Most countries have schemes in place for collaborative or community forestry, for example Indonesia, Guatemala, Nepal, and a number of countries in the Congo Basin.[34] Programs have yielded results in both poverty alleviation and forest protection where they were able to involve local communities and carefully assess community needs and capacities, and to assure secure tenure and rights. Our analysis[35] shows that in addition to interventions focused on institutional capacity-building, successful interventions by governments and civil society[36] included productivity (e.g., supporting forestry enterprises), institutions (e.g., forestry planning), and market access (e.g., certification). These interventions were supported through consistent funding. An analysis of 23 countries with such schemes shows, however, that most are not implemented at large scale.[37] The study also found that with regard to forest tenure reform – a key enabler for successful community forest management – most of the 23 countries fail to provide robust tenure to collective/community forests, whereas tenure for companies and smallholders is much more robust and well-implemented.[38]

Similarly, countries all over the world are employing payment for ecosystem services (PES) schemes, and examples from Brazil, Costa Rica, Mexico, and Vietnam evidence their effectiveness in incentivizing environmental protection.[39] Annual financial flows through PES schemes for forest and land use amounted to about USD 9 billion in 2015-16.[40] An analysis by CIFOR of 226 REDD projects demonstrated that PES schemes offer a direct and flexible model for incentivizing forest protection while providing additional income for local communities.[41]

Furthermore, many countries provide direct support to rural populations that can have positive impact on forests as a co-benefit. For example, the governments of Indonesia, Nepal, Liberia, Mozambique, Madagascar, Argentina, and Kenya are promoting intensification and permanent forms of cultivation where extensive agriculture systems such as shifting cultivation are prevalent.[42] The status of their implementation is however unclear. Other countries provide support without a primary focus on forest goals. Brazil, for example operates several incentive programs, including the rural credit program, targeted at improving practices among smallholder farmers.[43]

The effectiveness of these programs is often limited by insufficient funding or capacities of relevant government institutions. For example, smallholder cattle ranchers in the Brazilian Amazon lack access to technical assistance and often rely on extensive farming and pasturing. The main limitation is the lack of qualified extension officers, while basic services, such as health and education, are also in short supply.[44] Similarly, in Indonesia, extension service providers play a limited role in promoting better agricultural practices among smallholder palm oil farmers due to a lack of capacity.[45] Where programs are effective, their impact on forests remains unclear. For example, in the cocoa sector in West Africa – a smallholder sector tied to commodity markets and characterized by poor land management and widespread poverty – there is evidence that government support has led to increased productivity. There is a risk, however, that increased productivity may subsequently incentivize farm expansion and additional deforestation.[46]

Environmental governance has not yet been an effective mechanism to reduce the forest impacts of artisanal and small-scale mining (ASM), with a study in 2019 concluding that contextual conditions, especially economic conditions, are stronger determinants of forest outcomes.[47] The study also found that forest and protected area policies and regulations have more influence than mining sector policy and regulation. These findings indicate a need for mining ministries to more effectively engage in the governance of ASM and the management of its forest impacts.[48] Where governments have attempted to address the risks of ASM—including deforestation and exposure to toxic chemical such as mercury—through formalization,[l] forest impacts have in some cases paradoxically increased due to mechanisms like perverse incentives and increased mechanization, especially when not paired with

[k] Interventions to boost forest and agricultural productivity (P), Governance reforms to strengthen land rights (R), both informal and formal, Regional investments in institutions, infrastructure, and public services (I), Interventions that enhance market access (M), Mechanisms that enhance the flow of benefits from forest ecosystem services (E) to the poor.

[l] Formalization includes measures to bring artisanal and scall-scale miners into the regulated economy, including registering concessions, demarcating extraction zones, and issuing licenses.

supportive investments in tenure security and miner training.[49] In Peru, efforts to formalize ASM from 2001 to 2014 led to increased mining activity and an additional 40,000 hectares of forest loss.[50]

In the absence of effective national legislation, ASM has been the target of international regulations and guidance, as well as of regional frameworks. Environmental, and specifically, forest-related considerations, have not featured strongly in these initiatives.[51] However, momentum is building in policy and industry-led initiatives to incorporate environmental concerns, centering on due diligence on business integrity and human rights. Critics of mandatory supply chain due diligence – for example, the methods envisaged by the EU's Corporate Sustainability Due Diligence Directive – suggest that such market-led regulations could lead to the exclusion of ASM from responsible supply chains, as responsible players may abandon this higher risk sector altogether due to the higher transaction costs and reputational risks associated with responsible ASM sourcing.

Multilateral and international organizations are also bringing in new mechanisms and approaches to reduce forest impacts of ASM. The World Bank, for instance, has developed a 'Bolt-on Forest-Smart ASM standard' to enable ASM enterprises, and their regulators and buyers to introduce 'forest-smart' systems of production and trade, with support from fair trade or multistakeholder initiatives, local support organizations, and/or downstream businesses. Several countries are on board to pilot this Standard, but as of yet, financing to support this effort has not materialized.[52] Meanwhile, the Global Environmental Facility's GOLD+ program, which aims to deepen mercury reduction in ASM, is moving to incorporate a multi-sectoral approach into its activities, considering all sectors such as forestry, water, health, and environment.[53]

2. Private sector

2.1 Eliminating deforestation from agricultural supply chains

Producers, traders, processors, and retailers of commodities need to take measures to eliminate deforestation from the entire commodity supply chain. Companies must establish internal and supply chain management systems and processes, including for risk assessment, traceability, managing and supporting suppliers, and monitoring and verification of compliance to enable effective implementation. While the bulk of action and attention has been paid to prominent forest-risk commodities like soy, palm oil, cattle, and cocoa, other commodities such as rubber and coffee must be addressed comprehensively as part of supply chain interventions.

Civil society organizations supported by public and private donors have laid the groundwork for private sector action. They have developed extensive guidance -for example through the Accountability Framework initiative and numerous certification standards- for companies to design and implement policies in their supply chains to address deforestation. They have gathered data on forests, deforestation hotspots, commodity trade and deforestation risks in supply chains and made it available through platforms like Global Forest Watch, trase.earth, Mighty Earth's Cocoa Accountability Map, and others, for companies to use and act upon.

Despite this engagement and effort over the last decade, many companies have yet to adopt robust and comprehensive commitments. The majority of major global agriculture sector companies assessed by Forest 500 and Supply Change (72 percent and 77 percent, respectively) have no clear, comprehensive, and ambitious policy to eliminate deforestation from their supply chains.[54]

Among the large and medium sized companies that disclosed on their policies for forests through CDP, only a third (36 percent) reported timebound, quantifiable, no-deforestation or no-conversion commitments aligned with the Accountability Framework initiative. Thirteen percent of companies also include commitments to remediation, restoration and/or compensation of past harms and commitments to protect rights and livelihoods of local communities. Half (53 percent) of the companies disclosed that they have a policy related to forests or natural ecosystems that does not meet the best practice set by the Accountability Framework initiative. Based on data from ZSL's SPOTT (Sustainability Policy Transparency Toolkit), in the palm oil sector, only 8 percent (6 out of 79) of companies have a commitment to no conversion that aligns with the Accountability Framework criteria of natural ecosystems.

An even smaller share of companies have made progress in translating their commitments into actions (**Figure 3** and **Table 2**). Less than 20 percent of companies disclosing to CDP are able to report near full compliance with their zero deforestation commitments. Many companies have put traceability systems in place – often, supported by third-party certification – yet this has not resulted in sufficient product traceability. Based on CDP's assessment, only 7 percent of disclosing companies report that at least 90 percent of at least one commodity is certified by a scheme that ensures no-deforestation or no-conversion. While half of companies (50%) regularly engage with their direct suppliers, only 38 percent engage with smallholder suppliers, and only 22 percent offer technical or financial assistance.

Initiatives by groups of companies in collaboration with public and civil society sectors have been more successful than individual commitments. One of the most successful examples is the Amazon Soy Moratorium, where almost all soy traders in the region collectively decided to stop the purchase of soy linked to deforestation (**Box 2**).

CASE STUDY

BOX 2. THE AMAZON SOY MORATORIUM

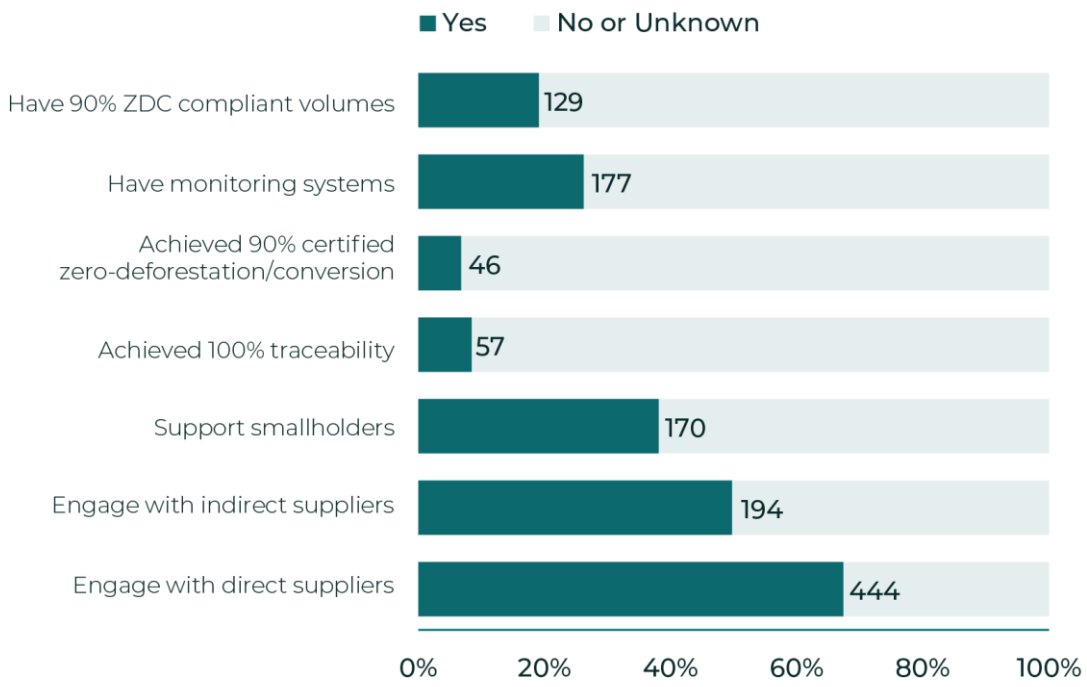
In 2006, the Brazilian Association of Vegetable Oil Industries (ABIOVE) and the National Association of Grain Exporters (ANEC) announced a policy that would become one of the most successful market-based conservation initiatives in the world: the Amazon Soy Moratorium. The Moratorium established that grain traders –representing 90 percent of soy trade in the region[55] would not purchase soy grown on recently deforested land in the Amazon region. Initially agreed for a period of two years, the Moratorium was later renewed annually until 2016, when it was renewed indefinitely. The original agreement prohibited purchase of soy produced on lands cleared after 24 July 2006. This date was later pushed to 22 July 2008, the amnesty for deforestation cut-off date established in the new Brazilian Forest Code of 2012.[56]

The Moratorium is led by the Soy Working Group, a multistakeholder forum. It was endorsed by the government in 2008 with the National Institute for Space Research (INPE) supporting monitoring efforts. Banco do Brasil, Brazil's largest public bank and major funder of the Brazilian agricultural sector, is also part of the initiative.[57]

The process of systematic discussions and annual renewals of the Moratorium led to gradual improvements of its monitoring and transparency system.[58] As a result, the agreement achieved a high level of maturity and obtained impressive results. Compliance reached very high levels: non-compliant area corresponded to only 2 percent of total soy grown in the Amazon Biome in the 2019/20 crop year. Only a residual fraction of 0.11 million hectares were associated with deforestation after 2008.[59]

Despite the overall success of the Moratorium, concerns have been raised on risks for deforestation "leaking" to the neighboring Cerrado biome or to other commodities.. For example, the Cerrado is also experiencing deforestation for soy plantation, but is not yet included in a moratorium.[60.]

Figure 3. Implementation of zero-deforestation commitments (ZDC) by companies reporting through CDP



Source: CDP disclosure data 2021

Table 2. Company progress on implementing elements of supply chain sustainability

Traceability	Of the companies disclosing through CDP, 57 (of 512 with traceability systems) report that they trace 100 percent of their sourced raw products back to unit of origin (i.e., plantation, farm, and cattle ranch). According to Supply Change, of the 125 largest companies (those with global operations accounting for over USD 4 trillion in global sales), only 35 report the percentage of their volumes traceable to the source or primary production unit for at least one commodity sourced. Across CDP and Supply Change datasets, improved traceability is most common in the palm oil sector. At least 35 percent of companies that disclose through CDP indicate that they can trace at least half their palm oil volumes to the processing level. Unless companies can trace their commodities back to at least subnational producer region or the location of origin, determining the risk of deforestation associated with these commodities remains a challenge.
Certification	The main certification schemes with zero-deforestation requirements are the Roundtable on Sustainable Palm Oil (RSPO), the Round Table on Responsible Soy (RTRS) and UTZ/Rainforest Alliance (RA) for cocoa. In addition to zero-deforestation requirements, companies need to source segregated or identify preserved materials certified under these schemes to provide zero-deforestation assurance. Certification use is highest among companies reporting on palm oil (79%), followed by timber products (64%) and coffee (52%). But only 3 percent of companies reporting on palm oil, and 2 percent of those reporting on soy report at least 90 percent of their volumes can be identified as originating from preserved or segregated supply chains. No companies report having achieved this level of certification for cattle products, natural rubber, cocoa, or coffee. While certifications are an important tool to achieve a deforestation-free supply chain, their effectiveness in incentivizing deforestation-free farming and hence reducing deforestation varies For example, while households with farms certified under RA-UTZ certification for cocoa and RSPO certification for palm oil have generally seen improved income, there is not enough clear evidence that certification results in reduced deforestation.[61]

Supplier engagement	Palm oil supply chains are doing comparatively well on supplier engagement compared to other forest-risk commodities. Based on data from ZSL's SPOTT (Sustainability Policy Transparency Toolkit), 52 percent of 91 assessed palm oil producers and processors report they have or support a program to support independent smallholders in the supply chain. Engagement with indirect suppliers is challenging, especially in sectors that are dominated by many smallholders and intermediaries, such as the cocoa and palm oil sectors. In the cocoa sector, for example, companies focus support mostly on large, direct supplying farms while many smallholders still remain unsupported. In the past few years, the CFI reported providing technical training in good agricultural practices to approximately 730,000 cocoa farmers in Côte d'Ivoire and Ghana.[62] Since farmers are likely to receive support from multiple companies, this figure likely overestimates the share of the region's roughly two million farmers who have received support.

2.2 Mitigating impact from extractive industries

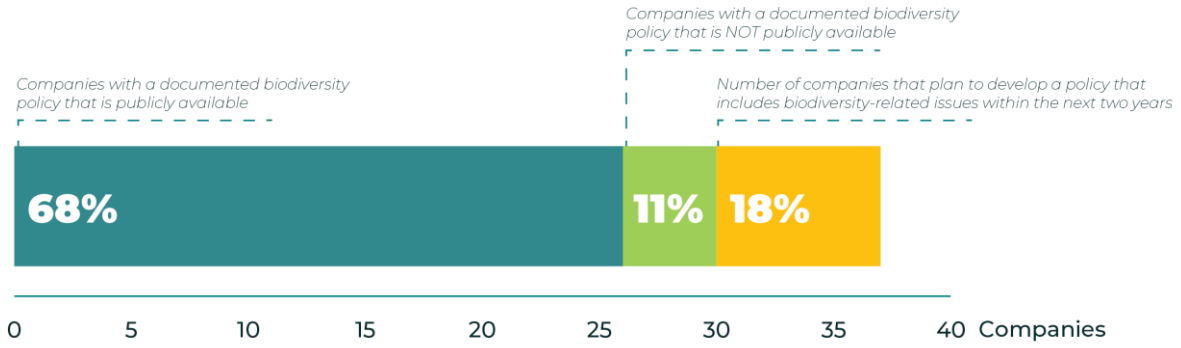
Like their counterparts in the agriculture sector, companies dealing with minerals and metals need to take action to eliminate deforestation from their value chains. In addition to their direct impact, which is low overall compared to the agriculture sector, companies also need to consider their indirect influence by opening up forests for other drivers (e.g., through access roads to mines). Best practices for companies, usually framed in the context of biodiversity protection, require the application of the mitigation hierarchy, a decision framework which allows for the systematic consideration of negative forest impacts and mitigation options.

Overall, corporate transparency relevant to forest risks remains very limited in the mining and extractives sectors. The vast majority of mining companies invited to report through CDP on their forest and biodiversity plans and impacts failed to do so. Although more than two thirds (26 out of 38) of these companies have made commitments and adopted policies to reduce or avoid biodiversity loss, the quality and effectiveness of these policies is unclear due to a lack of specificity in their design.

In response to investor demand, most mining companies have now adopted some form of corporate social responsibility (CSR) approach or environmental, social, and governance (ESG) principles that guide their activities.[63] While biodiversity commitments and policies are relatively common in these principles, however, an explicit focus on forests is rare.

Of 38 mining and coal extractive companies that reported through CDP in 2021, 26 (68%) had made a public commitment to reduce or avoid impacts on biodiversity (See Annex for figure). Of these companies, the majority (20) had company-wide commitments, rather than commitments targeting only specific mines or geographies. However, only 12 (32%) of these companies pledged to adopt the mitigation hierarchy approach, and even fewer pledged not to explore or develop mines in World Heritage sites (8 companies, 21%) or to aim for a Net Positive Impact on biodiversity (2,5%). The weakness of these and other sector practices undermines confidence in the quality and effectiveness of these commitments.

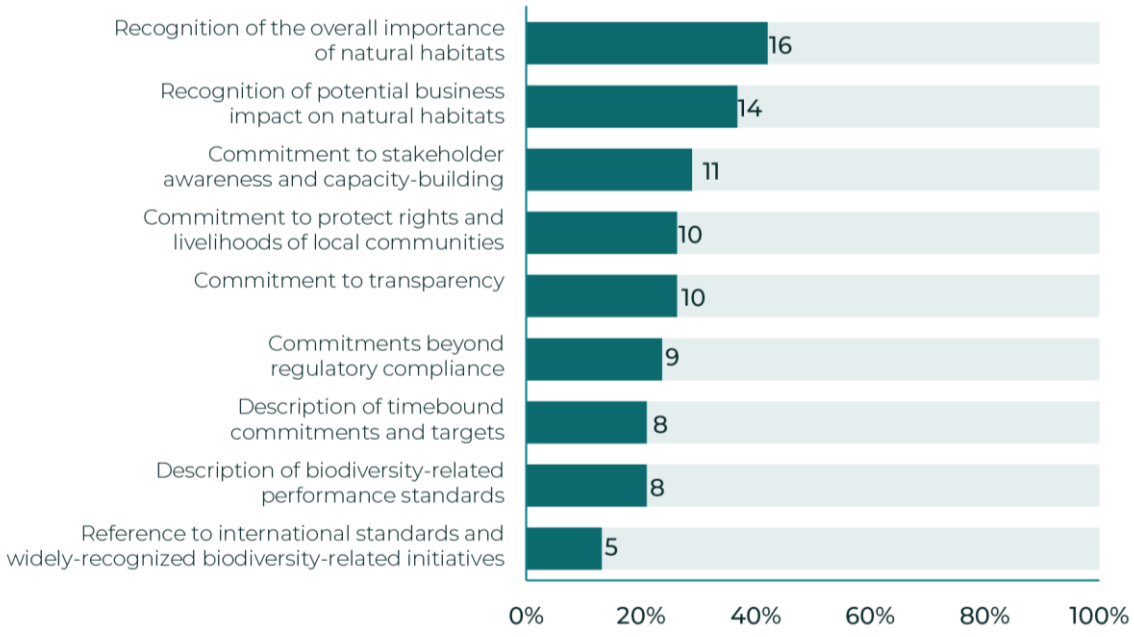
Figure 4. Adoption of biodiversity policies among 38 mining and coal extractive companies reporting through CDP



Source: CDP disclosure data 2021

The majority of companies (26 out of 38, 68%) reporting through CDP have a documented, publicly accessible biodiversity-related policy to manage impacts from their operations (**Figure 4**). A further four (11%) companies report that they have a biodiversity policy that is not publicly available, while seven more (18%) plan to develop a biodiversity-related policy within the next two years. That leaves only 1 out of 38 companies with no plans to have a policy in place by 2023. While some policies reiterate an awareness of the importance of natural habitats and commitments to good practices (e.g., transparency), others provide more detail by setting timebound targets (8, 21%) or describing biodiversity-related performance standards (8, 21%) (**Figure 5**). Overall, well below half of the policies contain the kind of explicit commitments or references to best practices that characterize well-designed, effective policies to reduce negative forest and biodiversity impacts.

Figure 5. Scope of biodiversity policies among 38 mining and coal extractive companies reporting through CDP



Source: CDP disclosure data 2021

The Responsible Mining Foundation (RMF) has, since 2018, tracked mining company performance against four indicators of "responsible mining": meaningful integration of ESG throughout the business model, transparency and data-sharing, a proactive rights-based approach to harm prevention, and international action to promote responsible mining.[64] Each of these indicators also serve as necessary, though not sufficient, building blocks for forest-positive mining and extractives. Against these measures, the RMF has found slow improvement by assessed companies, which cover 25-30 percent of global mining production. Companies improved by an average of 17 percent between 2018-20, and 11 percent between 2020-22. The evidence shows that progress by companies who have traditionally been leaders on responsible mining is slowing down – top tier companies only improved by an average of 4 percent between 2020-22.

Twelve of the 20 largest international mining companies have joined or adopted voluntary sustainability standards. ICMM's Mining Principles have the greatest representation, with 12 of the 20 companies as members; ICMM companies now cover 30 percent of global mining production. The TSM framework is the second-most adopted standard, with seven members. Six of the top 20 companies are not members of any sustainability scheme.[65]

Only a few mining sector standards – including the Initiative for Responsible Mining Assurance (IRMA) Standard for Responsible Mining, the IFC's Performance Standard, the Responsible Jewelry Council's Code of Practices, and to some degree the Aluminium Stewardship Initiative's Performance Standard – require mine site operators to consider indirect and cumulative impacts on biodiversity, in addition to direct effects (**Box 3**).

Box 3. Requirements of mining sector standards to consider indirect and cumulative impacts on biodiversity and to apply the mitigation hierarchy

A number of sustainability schemes targeting the mining sector have been developed, with varying relevance for forest and biodiversity protection (see Annex, Table A). At the level of mine site operations and processing, the International Council on Mining and Metals (ICMM)'s Mining Principles was the first international industry framework to address the environmental and social impacts of mining.[66] The ICMM and the Mining Association of Canada's Toward Sustainable Mining (TSM) framework both require biodiversity and environmental impact assessments, with risks and impacts to be managed through application of the mitigation hierarchy. IRMA's Standard for Responsible Mining is the only standard for mine site level that requires assessment and management of "direct, indirect, and cumulative impacts."

Further up the supply chain, the ResponsibleSteel Standard extends the IRMA Standard's principles up the supply chain throughout the steel sector, requiring mine sites to assess and manage biodiversity risks according to the mitigation hierarchy. The International Finance Corporation (IFC)'s Performance Standards are one of the most common reference points for the sector and cover the entire lifecycle of an investment. IFC Performance Standard 6 states that projects should consider direct and *indirect* project-related impacts on biodiversity and ecosystem services. Similarly, the Responsible Jewelry Council's Code of Practices calls for impact assessments to cover the direct, indirect, and cumulative impacts on biodiversity and ecosystem services. The Aluminium Stewardship Initiative's version 3 of its Performance Standard, released in 2022, requires companies to assess the biodiversity and ecosystem services impacts of their operations within their area of influence, which includes indirect project impacts that affect communities' livelihoods.

Only 2 of the top 20 companies have adopted the IRMA's Standard for Responsible Mining, which explicitly calls for the identification of direct, indirect, and cumulative effects on biodiversity and ecosystem services. Meanwhile, the number of mine sites participating in IRMA has increased over four-fold in the last two years. As of September 2022, 23 mine sites across 19 companies are registered on the Responsible Mining Map, an increase from 5 since our last assessment in 2020. At least 13 of those sites have begun or completed an independent, 3rd party assessment. The TSM initiative has taken a unique approach to adoption, targeting national industry bodies rather than individual mining companies. To date, the TSM framework has been adopted by nine countries' national mining associations, covering 26 percent of global mineral and metal production value.[67]

3. Grassroots actors

Engagement of civil society, Indigenous Peoples and local communities, and other citizen-led groups in grassroots movements

Civil society organizations, non-profit institutions, and Indigenous Peoples' organizations, as well as ad hoc *or more informal coalitions of smallholder farmers, women's networks, and mutual aid groups,[68] together make up the grassroots, which can unite in common cause against a threat to their livelihoods or the environment.[69] Grassroots actors can use a variety of methods, such as public protests, initiative legal challenges, and rallying international support, to influence how, where, or if development projects are undertaken and to exert local communities' rights to self-determination.*

Indigenous peoples and local communities are at the forefront of grassroots environmentalism, despite facing significant risks. IPs, LCs and grassroots actors have mobilized to gain access to and influence development planning to protect forests, ecosystems and livelihoods. Grassroots movements and resistance can play a role in raising awareness of the environmental and social impacts of large-scale development projects (**Table 3**). These efforts work to influence public opinion and inform land use decision-making and policy.[70]

An analysis of 2,743 cases found that bottom-up mobilizations (including formal petitions, street protests, and public campaigns) for more sustainable and socially just uses of the environment occur worldwide across all income groups.[71] In 11 percent of cases, they contributed to halting environmentally destructive and socially conflictive projects, defending the environment and livelihoods.[72] Another study of 649 cases of resistance movements found that place-based resistance movements are succeeding in curbing both fossil-fuel and low-carbon energy projects, and over a quarter of projects encountering social resistance were canceled, suspended, or delayed.[73]

These successes have come at a cost to the environmental defenders involved. Of the various groups involved in these forms of social protest, IPs and LCs are among the most likely to mobilize for environmental protection, participating in 41 percent of analyzed cases. Overall, environmental defenders face high rates of criminalization (20 percent of cases), physical violence (18 percent), and assassinations (13 percent), which significantly increase when Indigenous people are involved.[74] Conflicts over hydropower (160 of the 649 cases reviewed) were most likely to include concerns over deforestation and ecological connectivity, and were also particularly likely to involve repression, criminalization, and assassination of social activists, especially IPs and LCs. Over 200 land and environmental defenders were killed in 2021, according to Global Witness, and the mining and extractives sector is consistently ranked as one of the deadliest for defenders by Global Witness.[75]

COUNTRY CASE STUDY

ECUADOR

Ecuador's mining sector is an important contributor to government revenue via international trade. In July 2021, three months after he was elected, President Guillermo Lasso signed Decree 95, which aimed to double national oil production and increase private sector investment to meet foreign debt repayments and address spiking unemployment and poverty during the COVID-19 pandemic. This decree opened regions of the Ecuadorian Amazon to new mining concessions. Lasso also signed Executive Decree 151, which aimed to relax environmental controls to fast-track the entrance of foreign mining companies. Ecuador has a progressive constitution that enshrines the rights of nature, the rights of people to live in a healthy environment, and the rights of Indigenous peoples, but governmental action and lawsuits in favor of mining companies have historically not aligned with the Constitution. [76]

These decrees and the subsequent awarding of new concessions sparked protests and lawsuits.[77] In February 2022, Ecuador's Constitutional Court ruled that Indigenous peoples have the right to consent for extractive projects on their lands, clarifying that consent must be the outcome of legally required consultation processes for extractive projects in Ecuador and slowing the permitting processes for oil concessions.[78] Awarding of new concessions led to mass unrest again in June 2022. The Confederation of Indigenous Nationalities of Ecuador (CONAIE) released a list of ten demands of the government, including a moratorium on the expansion of the mining and oil industries, audits and reparations for the industries' sociological and environmental impacts, and increased respect for IP and LC rights and self-determination.[79]

In September 2022, after more than two weeks of Indigenous-led strikes to protest against extractive industries in forests and Indigenous territories, the government agreed to a temporary moratorium on new concessions and new projects in Indigenous territory and protected areas, putting new contracts for 16 Amazonian oil blocks on hold.[80] The moratorium will remain in place for at least 12 months or until the right to free, prior, and informed consultation for IPs and LCs is enshrined in law and comprehensive environmental legislation is passed. Lawsuits and protests also compelled the government *to repeal Decree 95 and reform Decree 151.*

A systematic review of conservation initiatives found that the active participation of IPs and LCs – through, for example, substantial input in decision-making and strong tenure recognition – resulted in significantly better environmental and social outcomes than when external organizations exert primary control.[81] Land managed by IPs and LCs, on average, sequester more than twice as much carbon dioxide-equivalent as other lands, according to a Forest Declaration Assessment study of Brazil, Colombia, Mexico, and Peru.[82] Ninety-two percent of forested IP and LC lands in these countries are net carbon sinks, with an average sequestration of 30 tons of carbon dioxide per hectare and year, which is twice as much as other lands and equivalent to, on average, 30 percent of these countries' unconditional 2030 mitigation targets.[83]

IP and LC voices are critical contributors to global narratives advocating for forests to be foregrounded in climate action and sustainable development agendas. Transnational alliances continue to unite and amplify IPs' and LCs' messages, which have effectively caught the attention and, in certain cases influenced the opinions of, international institutions (see Table 2). International alliances allow movements to overcome, to an extent, authoritarian or oppressive domestic contexts as space for civil society and activism closes in many countries.[84]

Table 3. Statements on extractive projects from Indigenous peoples and local communities, project proponents and government leaders, and international institutions

MINING

SWEDEN

In March 2022, the Swedish government awarded a mining license to Beowulf Mining's wholly owned Swedish subsidiary Jokkmokk Iron Mines AB for an iron ore mine in Gállok, an arctic region within the Sápmi (ancestral territory of the Sámi people). Prior to licensing, the Sámi expressed concern about a lack of good-faith consultations and failure to obtain the free, prior, and informed consent. The iron ore mine would affect a World Heritage Site which includes primeval forest and reindeer migratory routes, with potential outcomes including biodiversity loss, deforestation, and reduction of ecological integrity, per EJAtlas.

Today, our reindeer have to live with the negative impacts of 'renewable' energy production and large-scale forestry. In addition, we also have to work around infrastructures and deficient conservation policies…. There is no more room for a co-existence between Sámi livelihoods and extractive industries.

- **Jan-Erik Länta, chairman of Jåhkågasska Sámi village**[85]

Today, the Sámi are required to appeal to colonial governments and their legal frameworks to raise concerns about projects impacting our lands. But we never gave up our territories. Sámi customary law and land management should have the final say on any initiatives in Sápmi.

- **Sanna VannaR, president of the Sámi youth organization Sáminuorra**[86]

What local people?

- **CLIVE SINCLAIR-POULTON, CHAIRMAN OF BEOWULF MINING PLC**[87]

We are very concerned by the lack of good-faith consultations and the failure to obtain the free, prior and informed consent of the Sámi, and over the significant and irreversible risks that the Gállok project poses to Sámi lands, resources, culture and livelihoods

- **JOSÉ FRANCISCO CALITZAY, UN SPECIAL RAPPORTEUR ON THE RIGHTS OF INDIGENOUS PEOPLES ; AND DAVID R. BOYD, UN SPECIAL RAPPORTEUR ON HUMAN RIGHTS AND THE ENVIRONMENT**[88]

In this case, there have also been two conflicting national interests [minerals and reindeer husbandry], meaning that… the Government must decide which national interest is most likely to promote the long-term management of land, water and the physical environment in general…. Overall, the area covered by the exploitation concession is not considered to be of high nature conservation value.

- **Swedish Ministry of Enterprise and Innovation**[89]

MINING

GUYANA

In 2007, the village of Isseneru – an Indigenous community – received title to their land from the government of Guyana. However, miners who had previously been granted concessions continued to destroy the forests and ecosystems of Isseneru without intervention by the government. After two High Court rulings in 2008 and 2013 went against the village, the village and the Amerindian Peoples Association of Guyana filed a petition against the government of Guyana with the Inter-American Commission on Human Rights (IACHR). In 2021, the IACHR ruled that the governemnt of Guyana had violated the people of Isseneru's territorial and human rights.

The mining is so close to the center of the village that you can actually feel it in your body. The situation is terrible.

- **DWIGHT LARSON, PROJECT OFFICER FOR THE AMERINDIAN PEOPLES ASSOCIATION (APA)**[90]

While the decision provides us with a sense of relief, we will not be satisfied until significant steps are taken by the government to address the blatant and now validated violations of our rights and the rights of other Indigenous peoples across Guyana who are faced with similar situations.

- **ISSENERU VILLAGE COUNCIL**[91]

[There is nothing more the Government can do] to deter marauding miners laying waste to their Community.

- **PAULINE SUKAI, MINISTER OF AMERINDIAN AFFAIRS**[92]

[The people of Isseneru must receive] full reparations for the material and immaterial damages they suffered on the account of the violation of their human rights. The reparations must include measures of compensation, satisfaction and any other which are deemed appropriate in accordance with the Inter-American Standards…"

- **THE INTER-AMERICAN COMMISSION ON HUMAN RIGHTS (IACHR)**[93]

[The Government is not going to tolerate any bullying or] any violation of people's rights…. [T]his is happening; it seems, with complicity of some individuals at the junior level within the Government.

- **BHARRAT JAGDEO, VICE PRESIDENT OF GUYANA**[94]

AGRIBUSINESS

BRAZIL

The Estrondo mega-farm produces soy, corn, and cotton on between 200 to 300 thousand hectares, approximately one fifth of the municipality of Formosa do Rio Preta in Bahia state, Brazil.[95] The farm has been accused of acquiring its land holdings largely through land grabbing, fraud, and intimidation, leaving local Indigenous and Afro-descendant (*quilombola*) communities but off from their traditional territories in the Cerrado. Between 2004 and 2006 alone, the Estrondo estate converted 77,000 hecatres of native vegetation to cropland.

In 2017, a court ruled that the Estrondo mega-farm must return 43,000 hectares to seven local traitional communities. Instead of complying with the order, the farm installed electric fencing and built a two-mile long trench to restrict access, and allegedly paid bribes to judges to have them amend the court order. At least one judge involved is now incarcerated on bribery charges.[96] The traditional communities still do not have access to their common grazing lands, a situation enforced by armed guards who have in some cases shot community members grazing their cattle.

Deforestation has ended everything. All the hunting is gone.

[Estrondo guards] don't respect anything; they don't respect the law. We have been abandoned by the justice system, but we are not going to leave.

GUILHERME FERREIRA DE SOUZA, FARMER AND QUILOMBOLA COMMUNITY MEMBER[97]

Cachoeira do Estrondo Condominium condemns acts of violence and clarifies that the hired surveillance teams aim to ensure the property security and physical integrity of workers and residents of the enterprise. [Furthermore,] the management of Cachoeira do Estrondo venture denies that it has installed guard booths or prevented access on public roads

STATEMENT BY ESTRONDO TO MONGABAY[98]

3. Collaboration

Public, private, and civil society collaboration at the jurisdictional and landscape scale

Stopping deforestation requires the engagement and collaboration of all sectors and stakeholders that enable deforestation or are affected by efforts to prevent it. This collaboration is a fundamental component of landscape and jurisdictional approaches,[m] *which facilitate strategic alignment between initiatives, sectors, and market incentives within a jurisdiction.*[99]

Over the last decades, many international, national, and subnational multi stakeholder and multi sector initiatives emerged, for example, public-private partnerships and civil society collaborations, commodity certifications, place-based sourcing agreements, REDD+ programs, and other jurisdictional/landscape sustainability initiatives. A 2021 study identified 80 initiatives for improving sustainable resource use in forest landscapes, of which 25 had clearly specified the roles of actors involved and formalized their collaboration.[100]

Many of these initiatives are still in their early stages, making it difficult to attribute any recent reductions in deforestation to improved collaboration. A 2018 study[101] of 38 initiatives found that most initiatives had made some progress in improving land use planning and multistakeholder governance, with limited advancements in their support for sustainable agriculture, and financing (particularly from the private sector). Challenges remain in formalizing the inclusion and fair representation of local land users, in particular of IPs and LCs, [102] and building equitable market access opportunities that consider their informal institutions, practices, and social capital.[103]

Public-private partnerships that take a holistic approach to delivering environmental and socioeconomic benefits offer the greatest promise of transformative change. Even greater impact can be achieved with interventions tailored to the local context, and delivered at the landscape- or jurisdictional scale. Initiatives built through integrative, multi-purpose, and inclusive collaboration allow national and subnational governments, producers, investors, civil society organizations, and the private sector to interact with each other, build trust, and drive impact.[104] These partnerships are

[m] Jurisdictional approaches to sustainability seek to protect forests, reduce emissions, and improve livelihoods across political or administrative boundaries, such as countries, states, provinces, and districts, through an integrated land management that works across scales and sectors.

increasingly being established across commodity-producing regions; as ‘jurisdictional or landscape initiatives’; however, only a few have been formalized in long-term agreements or through clear management plans, monitoring systems and reporting frameworks. Formalized examples of successful landscape or jurisdictional partnerships exist mainly in Latin America and in Southeast Asia.

Annex

Figure A. Scope and type of public commitments out of 38 mining and coal extractive companies reporting through CDP in 2021

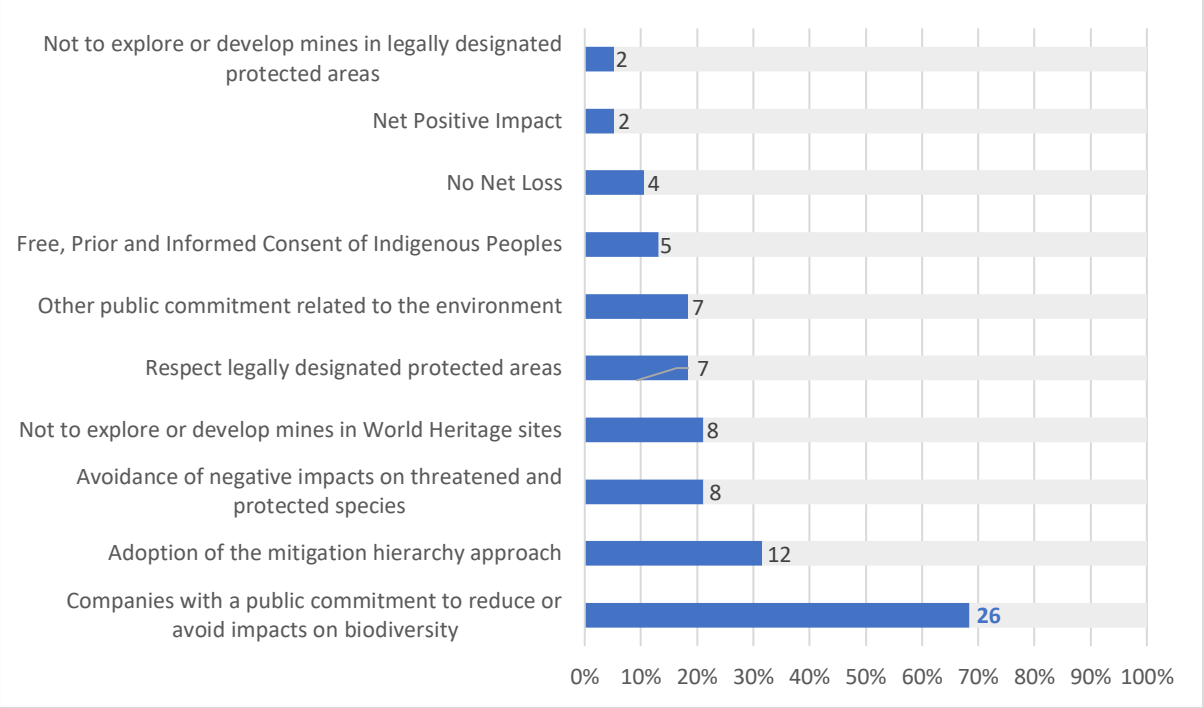


Table A. Selection of prominent sustainability schemes targeting the mining sector[n]

Supply chain target	Scheme name	# of top-20 companies adopting	Relevance for forests
For mining and processing only	The International Council on Mining and Metals (ICMM)'s Mining Principles	12	Under the Biodiversity Principle, companies are expected to avoid World Heritage Sites and respect legally designated protected areas; and to apply the mitigation hierarchy to assess and address risks and impacts to biodiversity and ecosystem services, aiming to achieve no net loss of biodiversity.
	Mining Association of Canada (MAC)'s Toward Sustainable Mining (TSM)	7	TSM includes a Biodiversity Conservation Management Protocol that sets out expectations for mining companies member to the Association with respect to conserving biodiversity and seeks to confirm that mining facilities have made formal commitments to manage biodiversity at their mine sites, using the mitigation hierarchy.
	Initiative for Responsible Mining Assurance (IRMA) Standard for Responsible Mining	2	IRMA provides a list of "Critical Requirements" that mining sites must meet to achieve so-called "IRMA 50" and "IRMA 75" certified levels as part of a stepwise onboarding process for companies. Under the critical requirements, companies need to conduct social and environmental impact assessments that cover the direct, indirect, and cumulative impacts on biodiversity, ecosystem services, and protected areas, accompanied by a mitigation and minimization plan, and ensure FPIC of Indigenous peoples and/or evidence of positive relationships with IPs and LCs and remedies for past impacts.
To be applied in the upstream supply chain, including smelters/ refiners	ResponsibleSteel Standard	3	In September 2022, the new ResponsibleSteel™ International Standard V2.0 was launched, incorporating additional requirements on GHG emissions and the sourcing of input materials. Principle 13 of the standard, on biodiversity requires sites to assess their risk and impact on biodiversity in their area of influence and to implement a plan, in line

[n]Adapted from Franken, G., & Schütte, P. (2022).

			with the mitigation hierarchy, to manage these risks and impacts, aiming for no net loss.
To be applied in the whole supply chain (mine to product manufacturing)	International Finance Corporation (IFC)'s Performance Standards	--	The eight Performance Standards cover social, environmental, health, and other standards that the user has to meet throughout the life cycle of the investment. Performance Standard 6 states that the project's impacts should consider direct and *indirect* project-related impacts on biodiversity and ecosystem services. In the context of biodiversity threats and impacts to ecosystem services, the process stresses that special focus should rest on habitat loss; degradation and fragmentation; invasive alien species; overexploitation; hydrological changes; nutrient loading; and pollution.
	Responsible Jewelry Council (RJC)'s Code of Practices	--	The Code of Practices states that impact assessments shall collectively assess "environmental, social and human rights impacts, including but not limited to impacts on biodiversity and ecosystem services, labor, and employment, gender, health and conflict. This includes cumulative and indirect impacts."
	Aluminium Stewardship Initiative (ASI) Performance Standard	2	[The ASI Performance Standard V3 (2022) defines 62 environmental, social and governance principles and criteria, with the aim to address sustainability issues in the aluminium value chain. The standard requires companies to assess and mitigate the biodiversity and ecosystem services impacts of its operations within its area of influence, which includes indirect project impacts on biodiversity or on ecosystem services upon which affected Communities' livelihoods are dependent. It also requires sites to conduct and environmental and social impact assessment and to implement a management plan in line with the mitigation hierarchy.

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