Oil palm and biodiversity:

Company commitments and reporting in 2020

Published: September 2021
Version: 1

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Citation: Dodson, A., Spencer, E., Johnston, D. (2021). The state of palm oil company reporting on biodiversity. SPOTT. London: Zoological Society of London.
Available at: https://www.spott.org/news/oil-palm-biodiversity-report-2021/
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Acknowledgements

This publication was funded with the generous support of the David and Lucile Packard Foundation, UK aid from the UK government, the Good Energies Foundation, and Norway's International Climate and Forest Initiative (NICFI), however, the views expressed do not necessarily reflect the views of these donors.

About SPOTT

Developed by the Zoological Society of London (ZSL), SPOTT is a free online platform supporting sustainable commodity production and trade. By tracking transparency, SPOTT incentivises the implementation of corporate best practice.

SPOTT assesses commodity producers, processors and traders on their public disclosure regarding their organisation, policies and practices related to environmental, social and governance (ESG) issues. SPOTT scores tropical forestry, palm oil companies and natural rubber annually against over 100 sector-specific indicators to benchmark their progress over time. Investors, buyers and other key influencers can use SPOTT assessments to inform stakeholder engagement, manage ESG risk, and increase transparency across multiple industries.

For more information, visit SPOTT.org.

About ZSL

ZSL (Zoological Society of London) is an international conservation charity working to create a world where wildlife thrives. From investigating the health threats facing animals to helping people and wildlife live alongside each other, ZSL is committed to bringing wildlife back from the brink of extinction. Our work is realised through our ground-breaking science, our field conservation around the world and engaging millions of people through our two zoos, ZSL London Zoo and ZSL Whipsnade Zoo.

Executive summary

- We are facing a global biodiversity crisis, which threatens not only our health, food systems and economies, but all life on our planet.
- The Fifteenth Conference of the Parties for the Convention on Biological Diversity (CBD COP-15), to be held in 2021 and 2022, is drawing much-needed attention to this biodiversity crisis, and it is vital that this conference provides a real turning point in global efforts to mitigate it. However, any efforts will depend heavily on the private sector playing its part in demanding safeguards for biodiversity.
- Unsustainable palm oil production plays a significant role in biodiversity loss in tropical forests, and this must be a focus area for both the industry and its stakeholders to remedy. In order to do this, palm oil companies and their financiers and buyers must all inform themselves of the current state of commitments and efforts from upstream companies to tackle biodiversity loss, and where serious improvements are needed.
- This analysis draws on data from the 2020 SPOTT assessments of 100 palm oil producers, processors and traders, to provide an overview of their disclosure of commitments and progress on biodiversity protection. Findings indicate that although the majority of upstream palm oil companies assessed on SPOTT commit to protecting biodiversity, most fall short in reporting on implementation.
- While 71% of companies commit to conducting HCV assessments before new development, only 23% have publicly available High Conservation Value (HCV) assessments and management and monitoring (M&M) plans for all estates planted since January 2015.
- Less than half of companies report multiple, externally verified examples of species and/or habitat conservation management in their set-aside areas or in the surrounding landscape, or describe activities with stakeholders to support positive environmental or social outcomes associated with palm oil production.
- ZSL recommends a range of actions to better-protect biodiversity in oil palm landscapes. It is the responsibility of all actors involved – from the producer through to its downstream buyers, investors and lenders – to ensure clear and robust policies on protecting species and landscapes are in place as a first step, but then crucially, to ensure these are followed up with the implementation of concrete and effective actions on the ground.
- We appeal to buyers and financial institutions, who are exposed to the Environmental, Social and Governance (ESG) risks of palm oil companies and can exercise considerable influence over their management, to:
    - Quantify and disclose their palm oil exposure.
    - Publish ESG commitments and implementation activities, and demand upstream supply chain actors to do the same.
    - Incorporate biodiversity impact mitigation into all decision-making processes.

Box 1: Defining biodiversity

The Convention on Biological Diversity (CBD) defines biodiversity as the "variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems." [1]

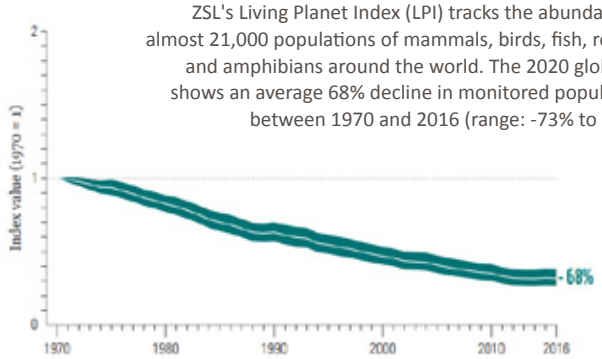
The International Union for Conservation of Nature (IUCN) describes biodiversity – the diversity of life on earth – as "integral to a healthy and stable environment. Diversity of life ensures environmental resilience, provides humans with the life systems on which they rely, and enriches life on earth." [2]

Introduction

Life on our planet is declining faster now than at any other point in human history.[3] ZSL and WWF's latest Living Planet Report, which provides a measure of the state of global biodiversity, determined that **humans reduced the world's wildlife populations by more than two thirds during a period of just 50 years, between 1970 and 2016.**[4] This extremely grave finding is yet more evidence that we are facing a crisis on a global scale. While governments, businesses, financiers and the public are growing more aware of the risks that declining biodiversity poses and what it means not just for nature, but for societies and economies across the globe, urgent action is required to slow down the mass extinction of Earth's wildlife.

Biodiversity (see box 1) underpins our economies at local, national and global levels. According to the World Economic Forum, approximately $44 trillion USD of economic value generation (over half of the world's total GDP) is at least moderately or highly dependent on ecosystem services, and transitioning to more nature-positive models could deliver $10.1 trillion USD in business opportunities, and 395 million jobs by 2030.[5] The recent Dasgupta review on the Economics of Biodiversity, commissioned by the UK Treasury, has provided further evidence for this discussion, laying out clearly the failure of current systems to properly value, invest in and protect nature, and the global economic imperative of doing so from now on: "Just as diversity within a portfolio of financial assets reduces risk and uncertainty, so diversity within a portfolio of natural assets increases nature's resilience to shocks, reducing the risks to nature's services. Reduce biodiversity, and nature and humanity suffer." [6]

Financial institutions should be aware not only of their exposure to biodiversity-related risks, but also that their financing decisions may have serious impacts on nature and humanity. While measuring these impacts is complex, investment and lending approaches seeking to address biodiversity loss are gaining prominence.[7] A recent study by Credit Suisse and Responsible Investor, based on the survey responses of 327 asset owners and asset managers, found that 67% reported they are addressing biodiversity to some extent in their portfolios (mostly through screening or engagement), and more than half thought that biodiversity would be one of the most important topics in the investment community by 2030.[8] The launch of the Taskforce on Nature-related Financial Disclosures (TNFD) in June 2021 is also a clear sign that the risks of not protecting biodiversity are being taken seriously by major corporate and financial-sector actors. Additionally, September 2020 saw the launch of the 'Finance for Biodiversity Pledge', along with a call on global leaders to agree to effective measures to reverse nature loss. The 37 financial institutions which have signed the pledge since its launch represent over €4.8 trillion EUR in assets and have committed to protect and restore biodiversity through their finance activities and investments.[9]



ZSL's Living Planet Index (LPI) tracks the abundance of almost 21,000 populations of mammals, birds, fish, reptiles and amphibians around the world. The 2020 global LPI shows an average 68% decline in monitored populations between 1970 and 2016 (range: -73% to -62%).

One major milestone that is drawing attention to the biodiversity crisis is the Fifteenth Conference of the Parties for the Convention on Biological Diversity (CBD COP-15), to be held in 2021 and 2022, at which the Parties are expected to adopt a post-2020 global biodiversity framework for 2021-2030. Given that not one of the Aichi Biodiversity targets set for 2011-2020 was fully met, and that the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) has warned that 25% of assessed species are at risk of extinction within the next decade,[3] it is vital that COP-15 provides a real turning point in global efforts to mitigate this crisis. However, any efforts will depend heavily on the private sector playing its part in demanding safeguards for biodiversity.

Palm oil and the biodiversity crisis

Palm oil is a useful and versatile commodity globally, and the industry provides employment and supports economic development in several countries. However, unsustainable oil palm cultivation has serious social and environmental costs, including various direct and indirect impacts on biodiversity. This not only threatens individual species with extinction, but also puts at risk the ecosystem services biodiversity underpins, such as nutrient cycling, water purification, climate regulation and the provision of food, fuels, and medicines. In Indonesia and Malaysia in particular the impacts have been severe, with unsustainable palm oil production contributing to the depletion of crucial habitat such as the Leuser ecosystem in Sumatra, and to major declines in populations of orangutans, gibbons, rhinos, tigers and elephants, among other species. As oil palm plantations expand increasingly into new frontiers, particularly within Africa and South America, these impacts will continue to stack up. **According to the IUCN, oil palm cultivation already threatens at least 193 species listed as Critically Endangered, Endangered or Vulnerable, and its future expansion has the potential to affect 39%, 54%, and 64% respectively of all threatened amphibians, mammals and birds.**[10]

Direct impacts

The IPBES reports that land-use change has had the largest negative impact on global biodiversity loss and ecosystem degradation since 1970, with agricultural expansion the most common form of land-use change.[3] Oil palm cultivation has played a major role in the decline of species diversity and abundance, primarily through the associated clearing of natural forests. Land clearance destroys and fragments forest ecosystems, leaving small and isolated forest patches with remnant plant and animal populations. This leads to substantially reduced genetic variation in remaining populations.[11] Forest fragments are also left more exposed to 'edge effects' – such as changes in microclimate, canopy structure, species abundance and composition, and increased exposure to human disturbance – meaning they continue to degrade further and more quickly than larger areas of forest. These fragments support fewer species, with forest specialists, endemics (i.e. species that globally only occur in a particular area), large-range species and species of conservation concern suffering the greatest impacts.[12] Sumatran tigers are one example of such species, and are now believed to number as few as 290 individuals in the wild, split into smaller populations that are isolated from each other and so cannot inter-breed. It is possible only two robust breeding populations of Sumatran tigers remain in the world.[13] Oil palm plantations themselves also support far fewer species than natural forests – one review of studies in Malaysia suggested that 80 percent of the species found in forest habitats were not found in oil palm concessions.[14]

The use of fire to clear land also contributes significantly to ecosystem degradation, as well as releasing vast amounts of carbon dioxide, methane and other greenhouse gases into the atmosphere, especially when carbon-rich peatland is burned. Various other aspects of palm oil production can contribute to emissions, including use of fertilisers and Palm Oil Mill Effluent (POME) ponds. Thus, the direct impacts of tropical forest clearance and palm oil production on biodiversity are compounded by the cumulative impacts of the climate changes these activities contribute to, which are already demonstrably affecting ecosystems and species in the tropics.

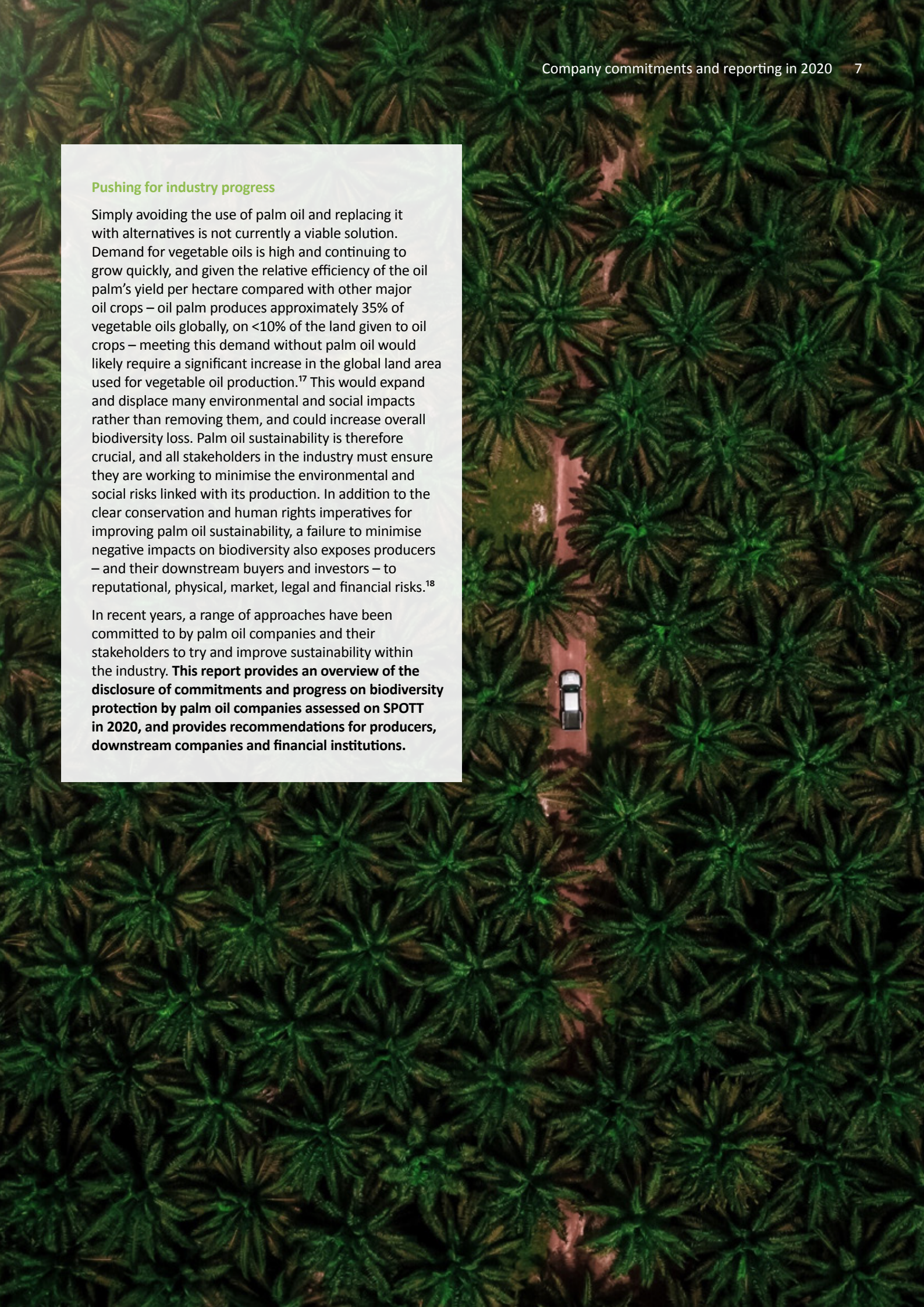
Other direct impacts of unsustainable palm oil production include pollution caused by run-off of chemical fertilisers and pesticides from plantations, and increased erosion and changes to the ecology of soils.

Indirect impacts

Various indirect impacts result from changes in the behaviour of people and wildlife that unsustainable development of oil palm can lead to.

The displacement of animals from their natural habitats often brings them into conflict with people, as they move into plantations or inhabited areas in search of food or when moving between isolated forest patches. This human-wildlife conflict can lead to wildlife being harassed, injured or killed, and indeed has been a major contributor to the decline in orangutan populations. One study across 687 villages in Kalimantan, Indonesia, found an average of 1,950–3,100 orangutans killed per year due to conflict and hunting.[15]

Hunting is another major impact that can result from oil palm development, although the drivers behind it can be varied and complex. Communities living in or near tropical forests may depend on hunting for subsistence purposes, and if oil palm development removes or reduces their access to other food sources without providing them with food security, the hunting pressure on local species may increase. Equally, this local hunting pressure can be increased by the movement of oil palm plantation workers into previously less populated areas, if company employees hunt in and around concessions. The wildlife trade is another powerful driver of hunting in tropical forest landscapes, and certain species are particularly in demand, making them more vulnerable to this threat. The development of road infrastructure into forest areas for oil palm development makes access to wildlife easier for hunters, as well as increasing the likelihood of wildlife being killed by vehicles. One study found that the most common cause of animal death in oil palm landscapes was due to illegal hunting, both for subsistence purposes and the illegal wildlife trade.[16]



Pushing for industry progress

Simply avoiding the use of palm oil and replacing it with alternatives is not currently a viable solution. Demand for vegetable oils is high and continuing to grow quickly, and given the relative efficiency of the oil palm's yield per hectare compared with other major oil crops – oil palm produces approximately 35% of vegetable oils globally, on <10% of the land given to oil crops – meeting this demand without palm oil would likely require a significant increase in the global land area used for vegetable oil production.[17] This would expand and displace many environmental and social impacts rather than removing them, and could increase overall biodiversity loss. Palm oil sustainability is therefore crucial, and all stakeholders in the industry must ensure they are working to minimise the environmental and social risks linked with its production. In addition to the clear conservation and human rights imperatives for improving palm oil sustainability, a failure to minimise negative impacts on biodiversity also exposes producers – and their downstream buyers and investors – to reputational, physical, market, legal and financial risks.[18]

In recent years, a range of approaches have been committed to by palm oil companies and their stakeholders to try and improve sustainability within the industry. **This report provides an overview of the disclosure of commitments and progress on biodiversity protection by palm oil companies assessed on SPOTT in 2020, and provides recommendations for producers, downstream companies and financial institutions.**

SPOTT reporting 2020 – indicators and analysis

SPOTT[i] is a free online platform that assesses forest-risk commodity companies on their public disclosure regarding their organisation, policies, and practices related to environmental, social and governance (ESG) issues.[19] SPOTT scores palm oil, natural rubber and tropical forestry companies annually against over 100 sector-specific indicators. This supports constructive industry engagement with the industry by investors, ESG analysts, buyers and other supply chain stakeholders – those with the power to influence companies to increase disclosures and improve their practices on the ground.

This analysis draws on data from the 2020 SPOTT assessments of 100 palm oil producers, processors and traders. Arguably, most of the 180 indicators companies were assessed against on SPOTT in 2020 have implications for the protection of biodiversity. For this analysis, however, this report focuses on those most linked to direct management and monitoring of biodiversity and habitats. The following SPOTT palm oil indicators from the 2020 framework have been used for this analysis:

INDICATOR ID (2020)	INDICATOR TITLE	DISCLOSURE TYPE (see box 2)
8	Collaboration with stakeholders to reduce negative environmental or social outcomes associated with palm oil production	Practice
17	Conservation set-aside area, including HCV area (ha)	Organisation
62	Implementing a landscape or jurisdictional level approach	Practice
63	Commitment to biodiversity conservation	Policy
65	Identified species of conservation concern, referencing international or national system of species classification	Practice
66	Examples of species and/or habitat conservation management	Practice
67	Commitment to no hunting or only sustainable hunting of species	Policy
69	Commitment to conduct High Conservation Value (HCV) assessments	Policy
72	High Conservation Value (HCV) assessments for all estates planted since January 2015	Practice
73	High Conservation Value (HCV) management and monitoring plans for all estates planted since January 2015	Practice
74	Commitment to only use licensed High Conservation Value (HCV) assessors accredited by the HCV Resource Network's Assessor Licensing Scheme (ALS)	Policy
76	Satisfactory review of all High Conservation Value (HCV) assessments undertaken since January 2015 by the HCV ALS Quality Panel	Practice

The SPOTT results show that companies vary significantly in the transparency and strength of their sustainability reporting. To allow SPOTT users to better understand where companies currently are and how they are progressing, indicators are separated into three groups: Organisation, Policy and Practice.

The SPOTT indicator framework places emphasis on assessing progress reported by companies in implementing individual commitments, differentiating between two levels of reporting on implementation: self-reported practice and externally verified practice. Within these Practice indicators, ZSL places greater weight on externally verified information, while still rewarding companies for self-reported progress.

For a number of Practice indicators that align with the RSPO Principles & Criteria (see box 3), growers that have any land certified under the RSPO automatically receive one full point for progress that is externally verified. Some Policy indicators are also awarded automatic points based on RSPO certification if the company is an RSPO member and has at least 75% of its landbank RSPO-certified, and a time-bound commitment to certify its remaining landbank within five years.

The focus of the SPOTT assessments is on the transparency of information, as this is key to sustainability in forest-risk commodity production. The following results therefore only consider policies and reporting that are made publicly available and meet the assessment criteria.[ii] It should be kept in mind that there may be cases where a company does not score points for an indicator but does in fact have a relevant policy or activities in place that it has not made publicly available.

i. See more on SPOTT here: http://www.spott.org ii. See SPOTT's assessment criteria here: https://www.spott.org/spott-methodologies/ iii.For example, see recent evaluation of certifications schemes by Greenpeace International https://www.greenpeace.org/international/publication/46812/destruction-certified/, and EIA International reports on auditing processes under the RSPO https://eia-international.org/report/who-watches-the-watchmen-2/

Box 2: SPOTT Indicator Framework

Organisation: The transparency and content of company disclosure regarding its operations, assets and management structure.

Policy: The transparency and content of company disclosure regarding the policies, commitments and processes it has to guide its operations and practices on the ground.

Practice: The transparency and content of company disclosure regarding activities it undertakes, in order to actively progress towards its targets and implement its policies and commitments on the ground.

- **Self-reported**: Information that has been reported by the company, without external verification
- **Externally verified**: Information reported by the company has been verified by a second or third-party, or has been audited by a certification body.

Box 3: Certification and biodiversity

Certification has become a widely used tool for tackling environmental and social impacts associated with forest-risk commodities, including palm oil. Views vary on the effectiveness both of individual schemes and of certification as an approach, and there are significant challenges that still need addressing, particularly regarding assurance and auditing.[iii] However, while it cannot provide a full solution in itself, certification is a key tool for improving sustainability in the palm oil sector, and one which all relevant stakeholders should keep working to improve.

The Roundtable on Sustainable Palm Oil (RSPO) is the largest global certification scheme for sustainable palm oil, currently with over 5,000 members and certifying 19% of the world's palm oil. The RSPO Principles and Criteria (P&C) 2018, against which producers are audited, cover multiple elements relevant to biodiversity conservation, including requirements for no deforestation and the protection of HCV and HCS forest, no clearing of land using fire, and reducing the use of chemical pesticides.

According to a 2019 comparison by IUCN NL[20] of the five standards with the biggest market share in certified palm oil production, the RSPO P&C 2018 scored the highest in terms of biodiversity protection and level of assurance. This was followed by International Sustainability and Carbon Certification's (ISCC) EU and Plus certification systems, and the Sustainable Agriculture Network (SAN) 2017 standard. The Indonesian Sustainable Palm Oil (ISPO) and Malaysian Sustainable Palm Oil (MSPO) standards were scored as the weakest.

How are upstream palm oil companies protecting biodiversity?

The majority – 54/79 (68%) – of companies assessed on SPOTT make a commitment to biodiversity conservation within their own operations. However, few report clearly on the activities relating to the implementation of this commitment. Biodiversity protection requires a whole range of approaches, from setting aside important areas within a concession boundary, to habitat management and restoration, species monitoring and stakeholder engagement. Below we explore in more detail how companies assessed on SPOTT are putting this commitment into practice.

Identifying Conservation Priorities

In order to protect biodiversity from the impacts of oil palm development, a producer must first thoroughly survey and identify key species, habitats and ecosystem services in and around its concession area. This is crucial for determining what conservation management practices are needed, as well as to provide baseline data for assessing their effectiveness in the future. **Just over half of companies assessed (43/79; 54%) have identified species of conservation concern within or around their operational area, referencing an appropriate system of classification** (see box 4)**, and have had this information externally verified. A further eight companies (10%) have identified species but without external verification of the data.** Before continuing with any development, a company must first set aside important areas for conservation, to ensure they are not included in clearance, planting or construction. Areas can be set aside for many different reasons, such as to protect endangered species, standing forest, water courses or fragile soils, or to maintain connections between other protected areas, and collectively this set-aside land is a valuable conservation asset. In total, **48/79 (61%) companies report recent[i] figures on their landbank set aside for conservation, totalling almost 1 million hectares.** On average this represents 14% of these companies' reported total landbanks controlled for palm oil production.

A key framework for assessing and deciding upon which areas to set aside is the High Conservation Value (HCV) approach (see box 5). The HCV approach has widespread recognition in the palm oil sector – **56/79 (71%) companies commit to conducting HCV assessments before new development.**

i. 'Recent' here meaning data not more than two years old at the time of assessment.

Box 4: Classification of species' conservation status

There are various systems for classifying the conservation status of species, and it is important that palm oil companies use an appropriate system when assessing species found in their operations.

The International Union for Conservation of Nature (IUCN) Red List of Threatened Species is the world's most comprehensive information source on the global conservation status of animal, fungi and plant species, and is a robust classification system for palm oil companies to refer to. The Red List provides information about range, population size, habitat and ecology, use and/or trade, threats, and conservation actions that will help inform necessary conservation decisions. It divides species into nine categories: Not Evaluated, Data Deficient, Least Concern, Near Threatened, Vulnerable, Endangered, Critically Endangered, Extinct in the Wild and Extinct. Currently, there are more than 35,500 species listed as threatened with extinction on the IUCN Red List.[21]

The **IUCN's Regional and National Red Lists** provide an equivalent method to assess the conservation status of species but at a more granular local, national or regional scale. These can also be very valuable for informing species assessment, management and monitoring in oil palm concessions.[22]

CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora) is an inter-governmental agreement aiming to ensure that international trade in wild animals and plants does not threaten their survival. There are currently 183 parties to CITES, protecting over 38,700 species against over-exploitation through international trade. Species are listed in three CITES Appendices, according to how threatened they are by international trade and the degree of protection they need. Appendix I includes species threatened with extinction, where trade is permitted only in exceptional circumstances. Appendix II includes species not necessarily threatened with extinction, but in which trade must be controlled in order to avoid utilization incompatible with their survival. Appendix III contains species that are protected in at least one country, which has asked other CITES Parties for assistance in controlling the trade. Classifying species by CITES Appendices is another useful way in which palm oil companies can indicate conservation status.[23]

However, evidence of this approach being implemented is much lower – **only 16/69 (23%) companies assessed clearly have publicly available HCV assessments for all estates planted since January 2015.** This figure is **higher for RSPO grower members (15/36, 42%)**, but still concerningly low given the emphasis RSPO membership and certification places on transparency.

In 2014, the HCV Network launched the Assessor Licensing Scheme (ALS) (see box 5), to help ensure the quality of HCV assessments. Having a satisfactory review confirms that the reports are of sufficient quality and meet key criteria, such as ensuring the methodology used to identify HCVs was adequate. Without robust identification of HCVs, negative impacts on biodiversity and local people cannot be properly managed. Again, we see here a disparity between company commitments and results – **48/79 (61%) companies commit to only use licensed HCV assessors accredited by the ALS, but only 15/69 (22%) have a review marked as 'satisfactory' by the ALS for all of their HCV assessments.**

Box 5: The HCV approach

The concept of 'High Conservation Value' (HCV) areas was first used in forestry, but is now widely implemented across various soft-commodity sectors, and is a key component of several voluntary certification schemes, including the RSPO.

The HCV approach is a practical tool for identifying and protecting biological, ecological, social and cultural values 'of outstanding significance or importance' in production landscapes, and incorporates a precautionary approach and consideration of the wider landscape context within which HCVs are identified. There are six categories used to classify HCVs:

HCV 1: Concentrations of biological diversity, including rare, threatened or endangered species
HCV 2: Landscape-level ecosystems and mosaics, including intact forest landscapes
HCV 3: Rare, threatened, or endangered ecosystems, habitats or refugia
HCV 4: Basic ecosystem services in critical situations, including water catchments
HCV 5: Sites and resources fundamental for satisfying the basic necessities of local communities or indigenous peoples
HCV 6: Sites, resources, habitats and landscapes of global or national cultural, archaeological or historical significance

The HCV Network[24] is a member-based organisation that oversees development and coordination of the HCV approach, providing guidance and quality-checking. The HCV Network runs the Assessor Licensing Scheme (ALS), which issues licenses to HCV and HCV-HCSA assessors, and monitors the quality of their reports through desk-based evaluation by a Quality Panel. HCV reports must obtain a 'Satisfactory' marking, with three attempts to attain a satisfactory outcome permitted per report. Since 2015, the RSPO has required its oil palm grower members to hire licensed assessors to conduct HCV assessments before any new planting can be undertaken, and under the 2018 P&C, growers are required to undertake integrated HCV/HCSA assessments.[25]

Management and monitoring

Once conservation areas have been set aside, effective management and regular monitoring is needed to ensure that these areas do not degrade over time, and that their critical environmental and social values are maintained or enhanced. Adaptive management, in which conservation management activities are informed by monitoring outputs, is an important part of this. It allows plans to be regularly reviewed to assess their effectiveness, and adjusted to respond to changing circumstances or new findings, to ensure the most appropriate management activities are used.[26] This can also help to reduce company costs and ensure optimal use of resources.

As part of the HCV approach, the findings of an HCV assessment should be used to design and implement HCV management and monitoring (M&M) plans to ensure identified HCVs continue to be maintained or enhanced.[i] Disclosure of HCV M&M plans helps key stakeholders, including downstream buyers and financiers, understand how companies are implementing their commitments to protect HCV areas and the biodiversity they support. **Only 15/36 (42%) RSPO grower members, and only 16/69 (23%) companies assessed overall, have publicly available HCV M&M plans or recommendations summaries for all estates planted since January 2015**. An additional **eight companies (12%) have externally verified HCV management and monitoring plans or recommendation summaries covering some new plantings, or not clearly covering all new plantings.**

Both within and outside of HCV areas, companies should aim to maintain the quality of natural habitat and protect species in any areas under their management. However, **only 39/79 (49%) companies report multiple, recent and externally verified examples of species and/or habitat conservation management in their set-aside areas or in the surrounding landscape**. A further **seven (9%) report comprehensive, self-reported information**.

'No Hunting' policies should extend across the entire scope of a company's operations, from plantations to conservation areas, and should allow for sustainable hunting by local communities for subsistence purposes that does not cause decline of local species populations, if appropriate. **Only 30/79 (38%) companies commit to no hunting of all species or only sustainable hunting by local communities for subsistence purposes, while 16 companies (20%) make a weaker commitment, either not covering all operations (e.g. commitment only covers HCV areas) or not covering all species (e.g. protected species only).**

i Detailed guidance for the management and monitoring of HCVs is provided by the HCVRN (Brown & Senior 2014). Brown, E. and M.J.M. Senior. 2014 (September). Common Guidance for the Management and Monitoring of High Conservation Values. HCV Resource Network. https://hcvnetwork.org/wp-content/uploads/2018/04/HCV_Mgmt_Monitoring_final_english.pdf

Patrols and on-the-ground monitoring

Implementing regular and thorough patrols of priority areas is an important management and monitoring tool, and from a review of company reporting on relevant indicators the ZSL team found at least 23 of the 46 (50%) companies reporting comprehensively on species and habitat management mention conducting patrols as part of their management of conservation set-aside areas, with 14 (30%) of these specifically mentioning this as part of their strategy to implement their no hunting policies.

One way to maximise the effectiveness of patrols is through the use of SMART (Spatial Monitoring and Reporting Tool),[27] developed by a partnership of conservation agencies, including ZSL. SMART was originally developed to support protected area monitoring and management, and enables the collection, storage, communication, and evaluation of ranger-based data. Information on patrol efforts – such as time spent, areas visited and distance covered – helps to improve efficiency of patrols, and patrol results and threat levels help to improve protection of wildlife and their habitats. The SMART approach involves use of free SMART software alongside capacity building and site-based protection standards,[28] and SMART's mobile data collection capabilities allow rangers to easily gather needed data. ZSL also developed the HCV Threat Monitoring Protocol, to be used in conjunction with SMART, as a way to systematically monitor all HCV areas using standardised patrol methods to identify and analyse threats and understand the species present to help meaningfully manage HCV areas.[29] This system has been shown to improve both the efficiency and effectiveness of HCV management.

Community engagement

A critical and often under-utilised tool for monitoring and managing biodiversity and set-aside areas is the meaningful consideration and inclusion of local communities in the process.[30] Local people living in or near set-aside areas should be involved in both the development and implementation of management and monitoring plans, and ongoing, clear communication is key. As a minimum, communities should be thoroughly informed of areas designated as conservation set-asides and what this means in practice. In many cases communities may be well-positioned to support on management activities if they are willing to, such as patrolling set-aside boundaries, monitoring species populations, or reporting signs of encroachment. This is more complicated where community needs may conflict with biodiversity protection – for example, if a company concession contains

endangered species (HCV 1), but these are also important as a food source for local community members (HCV 5). In cases such as these, it is particularly important that development of management approaches fully includes the local community, and a range of measures may be needed to properly protect both HCVs[30] – for example, in this case, by combining awareness-building and anti-hunting measures with provision of appropriate sources of alternative protein. Of the 46 SPOTT companies reporting comprehensively on species and habitat management, 26 (57%) explicitly report implementing some form of community engagement as part of this.

Remote sensing

Remote sensing can be particularly useful for monitoring HCVs 2 and 3, though can also be used to monitor the habitat of HCV 1 species and in some cases the status of HCV 4.[31] A number of platforms exist to help with this, such as Global Forest Watch, Satelligence, Starling and MapHubs, and some companies have built their own monitoring platforms. This type of technology can be used to monitor changes in land cover and detect disturbances such as non-compliant forest clearance or fires, and satellite or drone imagery can in some cases help to record species sightings or support in estimating population sizes. Remote sensing analysis should be followed up by ground truthing to ensure the data has been interpreted correctly.[i] Of the 46 companies reporting comprehensively, only 18 (39%) report using remote sensing or mapping data as part of their species and habitat management.

Landscape-level approaches

Landscape-level management approaches, which involve governments, companies, communities and other key stakeholders across a landscape, are crucial for protecting species and ecosystems both within and beyond the boundaries of company concessions. They can help maintain and enhance HCV areas beyond concession boundaries, taking into account habitat connectivity, species movement, water catchments and other landscape-level factors.[32] Research by SENSOR suggests that forest fragments less than 1,000 ha in size support only 50% of forest animal species,[33] and as conservation areas within a company's palm oil operations can be relatively small and fragmented, it is important to connect these habitats to each other and to the wider landscape in order to support viable genetic populations and large-range species. These 'wildlife corridors' also reduce the chances of human-wildlife conflict, by allowing species to travel undisturbed between forest patches without having to cross plantation areas or villages. Protection of peatland is also more effective when done at a landscape scale, as the entire peat dome is connected and must be maintained as a whole to prevent degradation.[30] **A total of 47/100 (47%) companies assessed on SPOTT incorporate consideration of a landscape approach**, though the majority of these are awarded points due to their RSPO certification status. Only eight companies explicitly refer to incorporating a landscape approach, and **only two of these have this information externally verified** by a second or third-party separately from RSPO certification. Given the urgent need for landscape approaches in palm oil production landscapes, and particularly considering their collaborative nature, this is a discouraging trend to see.

Collaboration

Collaboration on conservation efforts with other stakeholders outside the supply chain – such as governments, NGOs and academic institutions – can allow for more effective conservation and scaling up of impacts, as well as providing companies with significant benefits in access to relevant expertise, and cost and time savings through the sharing of efforts and management responsibilities.[30]

Landscape or jurisdictional approaches, for example, depend upon strong collaboration with local government, communities, and other companies operating in the area. At a smaller scale, working with communities within or adjacent to company concessions to patrol and protect HCV set-asides is another important form of collaboration. Another example would be working with a university or specialist NGO to study an endangered species or habitat within the company's concession – this allows gathering of valuable data to inform conservation research, but can also provide the company with important insight for their management and monitoring efforts. Despite these important benefits, **less than half (45/100; 45%) of companies describe activities with stakeholders (governments/NGOs/academic institutions) to support positive environmental or social outcomes associated with palm oil production, such as conservation projects, jurisdictional approaches, sectoral initiatives, multi-stakeholder or community collaborations, or strengthening of certification schemes.**

Leading companies should also share their knowledge of effective M&M strategies with others, to help growers overcome challenges in managing HCVs. This can be done through training programmes and mentoring of HCV staff.

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i The HCV Network's Common Guidance for Management & Monitoring of High conservation Values provides more information on the use of remote sensing for HCV M&M. https://hcvnetwork.org/wp-content/uploads/2018/04/HCV_Mgmt_Monitoring_final_english.pdf.

Conclusion and recommendations

Given the critical environmental and social impacts associated with biodiversity loss, it is crucial that palm oil companies work to minimise the risks to biodiversity on and around their plantations or those of their suppliers. However, although the majority of upstream palm oil companies assessed on SPOTT commit to protecting biodiversity, most fall short in reporting on implementation. While many companies (71%) commit to conducting HCV assessments before new development, only 23% have publicly available High Conservation Value (HCV) assessments and M&M plans for all estates planted since January 2015. Less than half of companies report multiple, externally verified examples of species and/or habitat conservation management in their set-aside areas or in the surrounding landscape, or describe activities with stakeholders to support positive environmental or social outcomes associated with palm oil production.

We recommend the following actions be implemented by palm oil producers, supply chain companies and financiers:

Palm oil producers should:

- Put clear and robust policies in place relating to biodiversity protection and the procedure for identifying priorities, including commitments to identify species of conservation concern in their operations, to conduct HCV assessments prior to any development, and to use licensed HCV assessors accredited by the ALS.
- Report clear data on the extent and type of areas set aside for environmental or social reasons in their concessions.
- Make their HCV M&M plans, or summaries of these, publicly available.
- Collaborate with external expert stakeholders where relevant, to inform their management and monitoring practices. This could include using external tools, such as SMART, to promote effective monitoring and adaptive management.
- Engage with local communities and invite their participation in biodiversity protection, including in the development and implementation of HCV M&M plans.
- Consider use of a landscape or jurisdictional approach where appropriate, incorporating landscape-level management and monitoring of HCVs.
- Incorporate use of remote-sensing technology where possible, to support monitoring of all operations for deforestation and fires.
- Share knowledge and experience with others in the industry, and particularly those operating within the surrounding landscape, on effective M&M strategies, to support improved biodiversity protection throughout the industry.

Downstream buyers should:

- Develop strong, clear biodiversity policies that apply to all of their palm oil suppliers.
- Assist with capacity building of supplier companies and smallholders to help them implement best practices in biodiversity protection.
- Assess and engage with all suppliers to ensure adherence to strong biodiversity policies.
- Support physical RSPO-certified palm oil through sourcing decisions and through active participation as RSPO members, to strengthen the organisation and support implementation of the standards.
- Support ZSL's work in engaging with the palm oil sector by signing up to our SPOTT Supporter Network, and calling for increased transparency in commodity sectors to promote sustainable production and trade (https://www.spott.org/supporter-network/).

Banks and investors should:

- Assess the impact of their financing in the palm oil sector on biodiversity, as well as the risks they themselves are exposed to through biodiversity loss as a result of unsustainable palm oil production.
- Establish strong and clear biodiversity policies that cover their financing of the palm oil sector, with time-bound and measurable targets for monitoring progress, and incorporate biodiversity criteria into capital allocation due diligence frameworks.
- Report on the impact of their financing and the progress they are making in the implementation of their policies and targets relating to the palm oil sector. The new Task Force on Nature-related Financial Disclosures (TNFD) aims to develop an approach for disclosure on biodiversity by financial institutions.
- Support RSPO-certified palm oil through financing decisions and through active participation as RSPO members, to strengthen the organisation and support implementation of the standards.
- Join financial sector initiatives such as the Principles for Responsible Investment (PRI) collective engagements on sustainable commodities and deforestation, the UN Environment Programme Finance Initiative's (UNEP FI) Principles for Responsible Banking and Principles for Sustainable Insurance, or sign up to the Finance for Biodiversity Pledge.[34]
- Support ZSL's work in engaging with the palm oil sector by signing up to our SPOTT Supporter Network, and calling for increased transparency in commodity sectors to promote sustainable production and trade (https://www.spott.org/supporter-network/).

Acronyms

COP	Conference of the Parties
HCV	High Conservation Value
M&M	Management and monitoring
ESG	Environmental, Social, Governance
LPI	Living Planet Index
GDP	Gross Domestic Product
HCS	High Carbon Stock
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
RSPO	Roundtable on Sustainable Palm Oil
P&C	Principles & Criteria
ALS	Assessor Licensing Scheme
SMART	Spatial Monitoring and Reporting Tool
PRI	Principles for Responsible Investment
CBD	Convention on Biological Diversity
TNFD	Taskforce on Nature-related Financial Disclosures

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