

Integrated Biodiversity Assessment Tool

DISCLOSURE PREPARATION REPORT: SUMMARY OF RESULTS FOR TNFD/GRI (PDF 1 OF 2)

Number of sites: 18

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About this report

This report enables users to assess the biodiversity-related characteristics of multiple sites within their direct operations or value chain (upstream and downstream) for reporting in line with the Taskforce on Nature-related Financial Disclosures (TNFD) and the Global Reporting Initiative (GRI). Specifically, this report provides information for [recommended disclosure Strategy D](#) and the Locate phase of the TNFD [LEAP](#) approach, and GRI Disclosure 101-4 'Identification of biodiversity impacts', and Disclosure 101-5 'Sites with biodiversity impacts' within [GRI 101: Biodiversity 2024](#).

Both the TNFD and GRI 101: Biodiversity 2024 require organisations to conduct a materiality assessment to determine which of their sites are material in their direct operations and value chain. Part of this materiality assessment requires an assessment on whether sites are located in or near 'ecologically sensitive locations'. This assessment of whether sites are sensitive or not should then be used to inform the prioritisation of sites for management and action.

To aid reporting in line with the disclosure requirements in the TNFD and GRI 101: Biodiversity 2024, the results in this report are split into 2 sections across 2 PDFs:

Section 1: Each site is assessed to see if it is located in or near an ecologically sensitive location (PDF 1 – this document).

Section 2: Sites assessed as in or near an ecologically sensitive location in the first section are assigned a significance score (PDF 1). These sites are then ranked according to their significance scores as an example of how sites can be prioritised (PDF 2).

A detailed mapping of how IBAT data and this report can be used for specific disclosure requirements in the TNFD and GRI 101: Biodiversity 2024 can be found in the appendices.

Definitions

The GRI and TNFD are aligned in their definitions.

Priority and material locations:

The TNFD defines "priority locations" are locations that are material and/or sensitive.

Material locations are defined as "locations where an organisation has identified material nature-related dependencies, impacts, risks and opportunities in its direct operations and upstream and downstream value chain(s)".

Sensitive locations and areas important for biodiversity:

GRI and TNFD define sensitive locations as "locations where the assets and/or activities in its direct operations – and, where possible upstream and downstream value chain(s) – interface with nature in:

- Areas important for biodiversity; and/or

- Areas of high ecosystem integrity; and/or
- Areas of rapid decline in ecosystem integrity; and/or
- Areas of high physical water risks; and/or
- Areas of importance for ecosystem service provision, including benefits to Indigenous Peoples, Local Communities and stakeholders.

The World Database on Protected Areas (WDPA), World Database of Key Biodiversity Areas (WDKBA), IUCN Red List of Threatened Species and Species Threat Abatement and Restoration (STAR) metric are all recommended metrics and reference datasets to assess for areas important for biodiversity.

This report identifies sites which are important for biodiversity and therefore sensitive an a priority.

Methodology

1. Sites assessed as in or near an ecologically sensitive location

In the first section, sites are assessed as in or near an ecologically sensitive location based on their overlap with significant biodiversity features in the IBAT datasets. The WDPA, WDKBA and IUCN Red List (in the form of the derived STAR metric) are used to assess if a site is in or near an ecologically sensitive location. (Note that Other Effective Area-based Conservation Measures or OECMs are not included in this analysis)

In the absence of a GRI or TNFD-provided definition of what constitutes ‘in or near’, IBAT considers a site in or near an ecologically sensitive location if:

- ✓ The area of influence (site and buffer) overlaps with a protected area or KBA.
- ✓ The area of influence (site and buffer) has STAR Threat Abatement and/or STAR Restoration scores exceeding the global median values of 0.01 and 0.003 respectively.

Important note: Sites assessed as not in or near an ecologically sensitive location in this report are sites that are not in or near an ecologically sensitive location according to the datasets within IBAT. **Sites flagged as not in or near an ecologically sensitive location in this report may be shown to be in or near an ecologically sensitive location based on datasets found outside of IBAT.** It is recommended that other tools and datasets should be used in conjunction with IBAT to complete a holistic sensitivity mapping. This report currently only assesses sites regarding how important they are for biodiversity. It is important to consider the other criteria (in the definitions section) when determining whether a site is in or near an ecologically sensitive location, and therefore potentially a priority site.

Buffers

This report automatically applies different buffers to different site types to effectively incorporate the area of influence of each site, with these values guided by available literature and expert knowledge. These buffers are also designed to account for potential inaccuracies in the global datasets (e.g., protected area boundaries).

For the IUCN Red List results, the report applies the assigned buffer to analyse the potential species presence. A precautionary 50 km buffer is also applied to account for uncertainties in species distribution and dynamic ranges (more information in the README). For the full list of species please refer to the included spreadsheet.

If no Site Type is selected, a default site type named ‘20 km Maximum Impact Buffer’ will be automatically applied. It should be noted that this buffer size may not accurately reflect the real-world risks posed to biodiversity features, which could be greater or lower than the risks reported.

Table 1. Buffer distances assigned to different site types.

Buffer Distance	Site Type(s)	Justification	References
5 km	Offices, Warehouses, Low-input agriculture	A 5 km buffer is recommended as the minimum buffer size to be used. Low-input agriculture is placed here as the degree of freshwater pollution is expected to be lower (see 10 km buffer justification).	<ul style="list-style-type: none"> • UNEP-WCMC, The Area of Influence of site-based operations – Direct Impacts (2021). • UNEP-WCMC, The Area of Influence of site-based operations – Indirect Impacts (2022).

Buffer Distance	Site Type(s)	Justification	References
10 km	High-input agriculture, Onshore wind, Construction, Oil and gas (terrestrial)	A 10 km buffer is suggested as being likely to cover the impacts from most pressures (Amec Foster Wheeler 2015; UNEP-WCMC 2021). Freshwater pollution impacts are likely to be experienced at larger distances (e.g., average of 13.4 km for mines and oil and gas operations (UNEP-WCMC 2021)). As agriculture is one of the main contributors to eutrophication and pollution globally (Poore & Nemecek 2018) it is deemed that a 10 km buffer is most relevant.	<ul style="list-style-type: none"> • Amec Foster Wheeler (2015) Habitats Regulations Assessment: 14th Onshore Oil and Gas Licensing Round (No. Doc Ref. 33917rr008i2) Oil and Gas Authority. • UNEPWCMC, The Area of Influence of site-based operations – Direct Impacts (2021). • J. Poore, T. Nemecek, Reducing food's environmental impacts through producers and consumers. Science. 360, 987–992 (2018).
20 km	Offshore wind, Oil and gas (marine), Hydropower	Marine operations have the potential to have larger areas of influence when compared to terrestrial, especially if noise is excessive. UNEP-WCMC suggested a buffer size of 20 km for marine oil and gas operations (UNEP-WCMC 2021) and a 20 km buffer is also likely to be sufficient to account for a majority of wide-ranging species (Weaver J 2020).	<ul style="list-style-type: none"> • UNEP-WCMC, The Area of Influence of site-based operations – Direct Impacts (2021). • Weaver J, "WALES NATIONAL DEVELOPMENT FRAMEWORK - Habitats Regulations Assessment" (Sefydliad Materion Cymreig.) Institute of Welsh Affairs, (2020).
50 km	Mining	Mining has been observed to contribute to deforestation effects up to 50 km away (Sonter et al. 2017; Maddox et al. 2019).	<ul style="list-style-type: none"> • L. J. Sonter, D. Herrera, D. J. Barrett, G. L. Galford, C. J. Moran, B. S. Soares-Filho, Mining drives extensive deforestation in the Brazilian Amazon. Nature Communications. 8, 1013 (2017). • T. Maddox, P. Howard, J. Knox, N. Jenner, Forest-Smart Mining: Identifying Factors Associated with the Impacts of Large-Scale Mining on Forests (World Bank, 2019).

Important note: The buffers assigned to each site type in this report provide an initial approach to differentiate areas of influence based on different impacts of different operations. IBAT Partner UNEP-WCMC is currently conducting research to create a more refined buffer methodology. Therefore, the buffers used in this report are subject to change.

2. Significance scores assigned to sites assessed as in or near an ecologically sensitive location

In the second section, sites assessed as in or near an ecologically sensitive location in the first section are assigned a significance score in order to aid the prioritisation of sites.

Scores of high, medium, and low are presented based on the proximity of the site to a KBA or protected area relative to the appropriate buffer size based on the site type or based on the maximum STAR Threat Abatement and STAR Restoration scores found within the Area of influence (site + buffer).

Tables 2 and 3 outline how the significance scores for sites are determined in relation to protected areas, KBAs and the STAR metric. Please note that if sites are marine, they would not have significance scores included in the results because the STAR metric only covers the terrestrial realm.

In table 5 and PDF 2, sites are ordered in the potential likelihood of priority based on: 1) site is a sensitive site for both STAR and either protected areas and/or KBAs. 2) the total sum of significance scores for protected area, KBAs, and STAR (High = 27, Medium = 8, Low = 1). Guidance for the interpretation of biodiversity significance scores can be found in the ReadMe file.

Table 2. Criteria used to assess the biodiversity significance of each site based on the proximity of the site to a KBA or protected area relative to the appropriate buffer size according to the site type.

Buffer Distance	Site Type	Biodiversity Significance			
		None	Low	Medium	High
5 km	Offices, Warehouses, Low-input agriculture	>5 km	1.5-5 km	0.5-<1.5 km	<0.5 km
10 km	High-input agriculture, Onshore wind, Construction, Oil and gas (terrestrial)	> 10 km	3-10 km	1-<3 km	<1 km
20 km	Offshore wind, Oil and gas (marine), Hydropower	> 20 km	6-20 km	2-<6 km	<2 km
50 km	Mining	> 50 km	15-50 km	5-<15 km	<5 km

Table 3. Criteria used to assess the biodiversity significance of each site based on the maximum STAR Threat Abatement and STAR Restoration scores found within the Area of influence (site + buffer).

	Biodiversity Significance		
	Low	Medium	High
STAR Threat Abatement	Max STAR Threat Abatement value is < 0.05	Max STAR Threat Abatement value is between 0.05 and 0.15	Max STAR Threat Abatement value is > 0.15
STAR Restoration	Max STAR Restoration value is < 0.02	Max STAR Restoration value is between 0.02 and 0.05	Max STAR Restoration value is > 0.05

Important note: The significance scores of the sites are based on the datasets within IBAT. The significance score and prioritisation of sites would likely change if datasets outside of IBAT were included in this exercise. It is recommended that other tools and datasets should be used in conjunction with IBAT to complete a holistic sensitivity mapping.

Results

1. Sites assessed as in or near an ecologically sensitive location

A total of 18 sites were assessed in this report. Overall, 18 sites (100.0%) were identified as in or near an ecologically sensitive location.

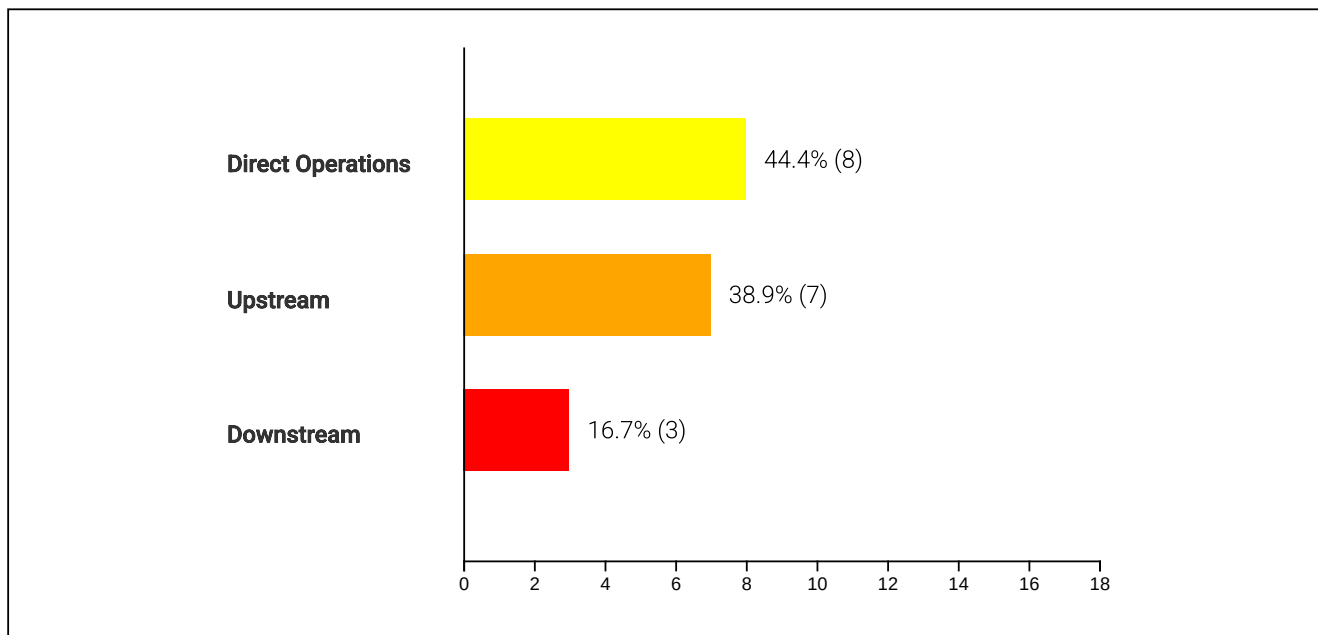


Figure 1. Number and proportion of sites in or near an ecologically sensitive location, broken down by operation type.

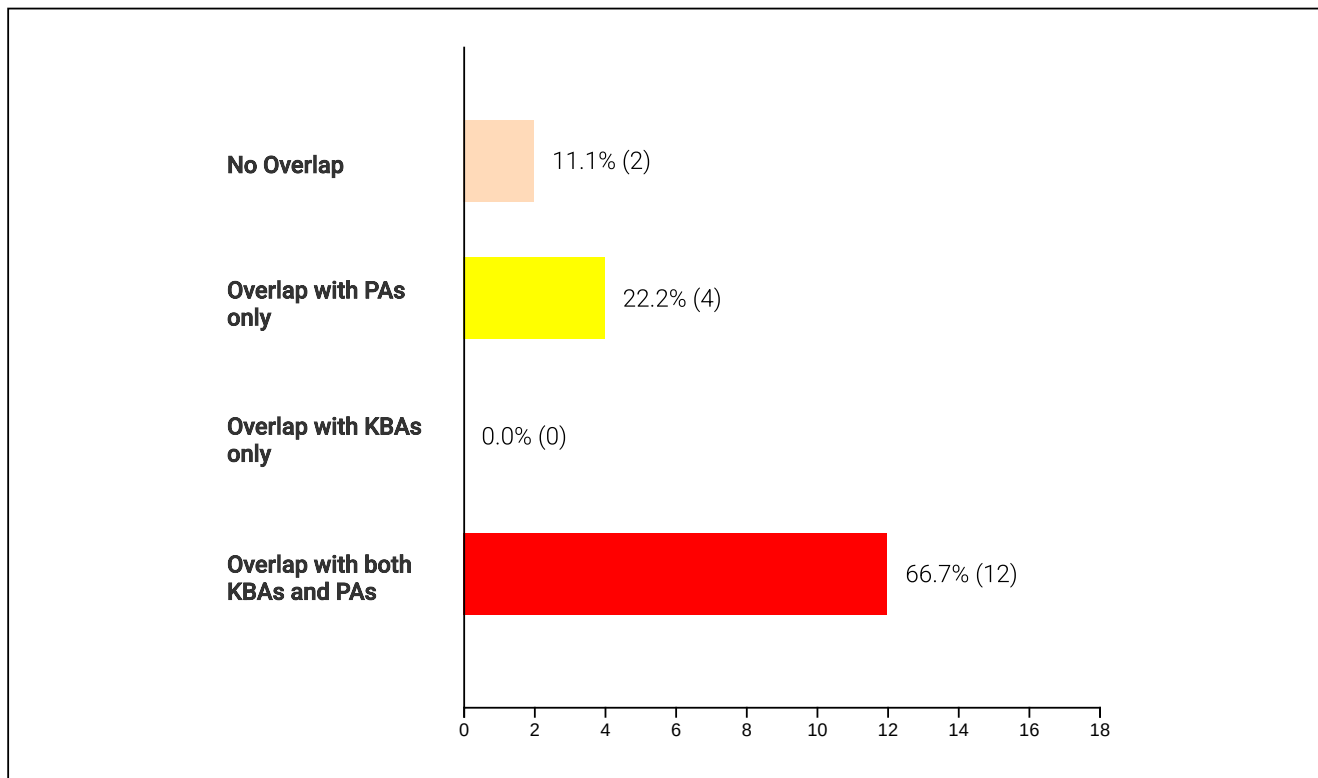


Figure 2. Number and proportion of sites (upstream, downstream, and direct operations) identified as being in or near an ecologically sensitive location based on overlap with protected areas or Key Biodiversity Areas.

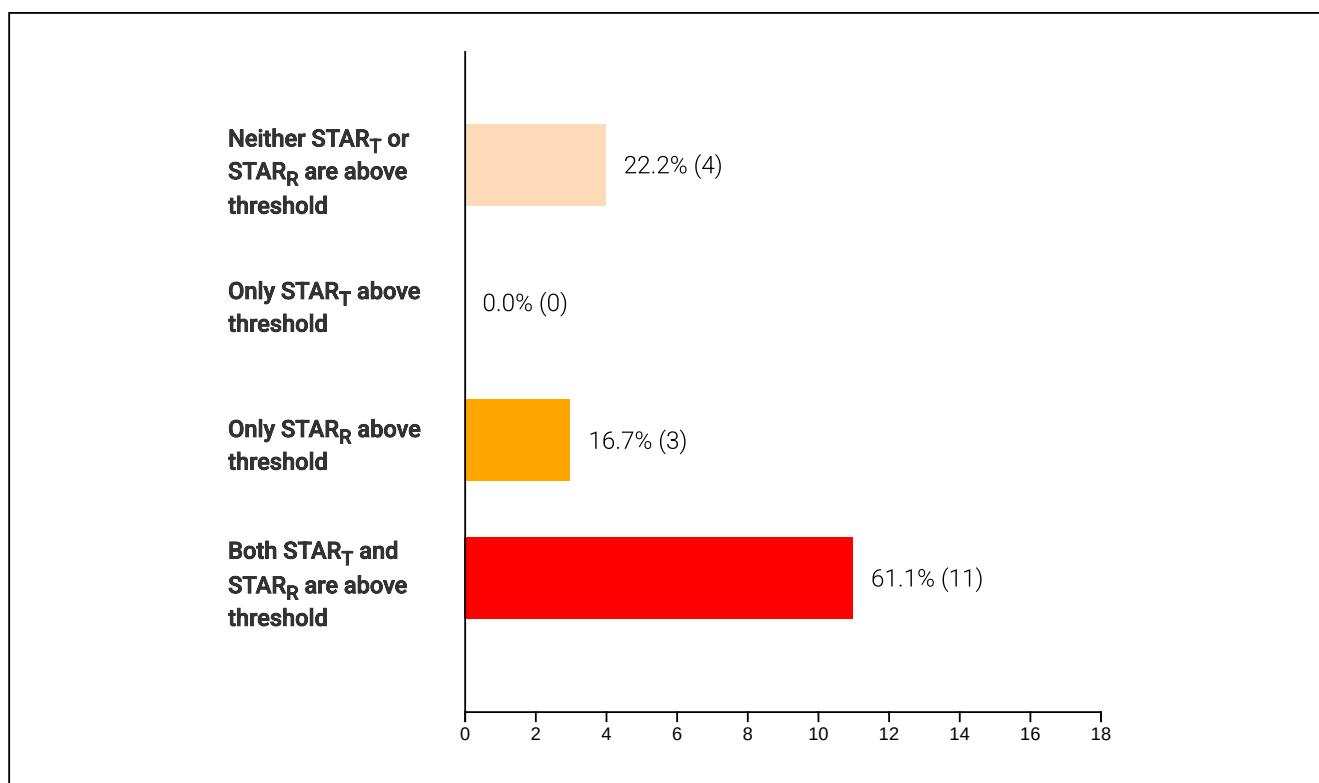


Figure 3. Number and proportion of sites (upstream, downstream and direct operations) identified as in or near an ecologically sensitive location based on the STAR_T and STAR_R metric. The global median value thresholds for STAR_T and STAR_R are 0.01 and 0.003 respectively.

Table 4. Summary of sites identified as being in or near an ecologically sensitive area.

Site Name	Site Type	Operation Type	Buffer distance applied (km)	Sensitive: PAs and/or KBAs	Sensitive: STAR
Brazil Carajás Mine	Mining	Upstream	50	Yes	Yes
Dubai, UAE O&G Field	Terrestrial Oil and gas	Downstream	10	Yes	No
EU Distribution Centre	Offices	Upstream	5	Yes	No
EU Office HQ	Offices	Direct Operations	5	No	Yes
Florida, US, Innovation Center	Warehouses	Upstream	5	Yes	Yes
Gagal Cement works	50 km Maximum Impact Buffer	Direct Operations	50	Yes	Yes
Germany Wind Energy Exploration	Onshore wind	Upstream	10	Yes	No
Hornsea, UK Offshore Wind	Offshore wind	Downstream	20	Yes	No
Japan STAR	Terrestrial Oil and gas	Direct Operations	10	Yes	Yes
Mumbai, India Logistics Warehouse	Warehouses	Downstream	5	Yes	Yes
Niigata, Oil & Gas Field	Marine Oil and gas	Direct Operations	20	Yes	Yes

Site Name	Site Type	Operation Type	Buffer distance applied (km)	Sensitive: PAs and/or KBAs	Sensitive: STAR
O&G Exploration	Terrestrial Oil and gas	Direct Operations	10	Yes	Yes
Rayong, Thailand Port	Construction	Upstream	10	No	Yes
Sandakan, Malaysia Palm Oil	High-input agriculture	Upstream	10	Yes	Yes
Seoul HQ office	Offices	Direct Operations	5	Yes	Yes
Tumut, Australia Hydropower	Hydropower	Direct Operations	20	Yes	Yes
West Mining Exploration	Mining	Upstream	50	Yes	Yes
Wind Energy Exploration - CA	Onshore wind	Direct Operations	10	Yes	Yes

2. Significance scores assigned to sites assessed as in or near an ecologically sensitive location

Table 5. The biodiversity significance of each site assessed as in or near an ecologically sensitive location based on the proximity of the site to a KBA or protected area relative to the appropriate buffer size according to the site type and the maximum STAR scores found in the area of influence (site + buffer).

Site Name	Site Type	Operation Type	Sensitive: PAs and/or KBAs	Sensitive: STAR	Significance Based on Proximity to a Protected Area	Significance Based on Proximity to a Key Biodiversity Area	Significance Based on STAR Scores
Japan STAR	Terrestrial Oil and gas	Direct Operations	Yes	Yes	High	High	High
Brazil Carajás Mine	Mining	Upstream	Yes	Yes	High	High	High
Tumut, Australia Hydropower	Hydropower	Direct Operations	Yes	Yes	High	High	High
Gagal Cement works	50 km Maximum Impact Buffer	Direct Operations	Yes	Yes	Low	High	High
West Mining Exploration	Mining	Upstream	Yes	Yes	Medium	Medium	High
Niigata, Oil & Gas Field	Marine Oil and gas	Direct Operations	Yes	Yes	Medium	Medium	High
O&G Exploration	Terrestrial Oil and gas	Direct Operations	Yes	Yes	Low	Low	High
Seoul HQ office	Offices	Direct Operations	Yes	Yes	Low	Low	High
Wind Energy Exploration - CA	Onshore wind	Direct Operations	Yes	Yes	High		Low
Sandakan, Malaysia Palm Oil	High-input agriculture	Upstream	Yes	Yes	Low		High
Florida, US, Innovation Center	Warehouses	Upstream	Yes	Yes	Medium	Medium	Medium

Site Name	Site Type	Operation Type	Sensitive: PAs and/or KBAs	Sensitive: STAR	Significance Based on Proximity to a Protected Area	Significance Based on Proximity to a Key Biodiversity Area	Significance Based on STAR Scores
Mumbai, India Logistics Warehouse	Warehouses	Downstream	Yes	Yes	Low	Low	Medium
Germany Wind Energy Exploration	Onshore wind	Upstream	Yes	No	High	High	None
EU Office HQ	Offices	Direct Operations	No	Yes			High
Rayong, Thailand Port	Construction	Upstream	No	Yes			High
Hornsea, UK Offshore Wind	Offshore wind	Downstream	Yes	No	High		None
Dubai, UAE O&G Field	Terrestrial Oil and gas	Downstream	Yes	No	Low	Low	None
EU Distribution Centre	Offices	Upstream	Yes	No	Low		None

PDF 2 provides additional information on each site assessed as in or near an ecologically sensitive location in the same order as Table 5.

Limitations

This report provides an indication of biodiversity-related features (protected areas, Key Biodiversity Areas and species) whose distributions overlap or fall close to the specified site. While it provides an early indication of potential biodiversity concerns, the report does not provide details of potential direct, indirect, downstream or cumulative impacts. Furthermore, the report provides an assessment based on global datasets and is not a substitute for additional investigation and due diligence, especially concerning national and/or local conservation priorities.

Species do not occur throughout their distributions, and population densities and the relevance and severity of threats may vary across their ranges. STAR scores in this report do not reflect such local variations. Overlap with a species' current Area of Habitat does not necessarily indicate that the species occurs within the particular Area of Interest.

STAR scores included in this report are calculated for species of amphibians, birds and mammals for which current or historical Area of Habitat occurs in the Area of Interest. Only species assessed as Near Threatened, Vulnerable, Endangered or Critically Endangered on the IUCN Red List of Threatened Species are included - Data Deficient species do not contribute to STAR scores but would also be important for accessing biodiversity in the area.

The STAR layers are currently only available for terrestrial habitats. Therefore, for sites which partially overlap with marine areas (i.e. coastal sites), the STAR scores will only be generated for the terrestrial part of the Area of Interest. Additionally, the STAR scores only cover 3 taxonomic groups at the moment - birds, mammals and amphibians.

The values used to generate the STAR categories in the global maps closely approximate but do not exactly match the values used to calculate the scores for the Area of Interest in this report. This is due to how the STAR values underlying the scores for the Area of Interest are generated vs the way they are generated for the global maps. The differences are marginal however, so it can be assumed that both site and global maps are sufficiently accurate for comparing within and between sites.

Geographical regions have significant differences in their Protected Areas and/or Key Biodiversity Areas. For example, the KBA identification process has not been completed in every country, nor for all taxa, and is biased towards key sites for bird conservation. The protected areas database is based on records provided primarily by national governments and is also incomplete in various ways. Protected areas in certain countries might not be publicly available as well and hence, might not portray a holistic global perspective.

Appendices

1. Overview of requirements for TNFD recommended disclosure Strategy D and the Locate phase of TNFD's LEAP approach that can be supported with the data provided by the IBAT.

Strategy Disclosure D Requirements	Outputs to Use from IBAT
<ul style="list-style-type: none"> A list and/or spatial map of the sites where the organisation has assets and/or activities: <ul style="list-style-type: none"> In its direct operations and upstream and downstream value chain(s), where material nature-related dependencies, impacts, risks, and opportunities have been identified, and whether any of these sites meet the criteria for sensitive sites; and; In its direct operations and, where possible upstream and downstream value chain(s), that are in sensitive sites. 	<ul style="list-style-type: none"> Maps of each site are provided. Boundaries of protected areas and KBAs are overlain to illustrate proximity to important biodiversity and conservation features. Each site is assessed as either sensitive or not sensitive according to the datasets hosted within IBAT. A site is identified sensitive if any protected area or KBA fall entirely or partly within the buffered area or if the STAR Threat Abatement and/or STAR Restoration scores exceeds the global median value.
<ul style="list-style-type: none"> A description of how the organisation has defined sensitive sites, with reference to the tools, data sources and indicators and metrics used; 	<ul style="list-style-type: none"> Reference sensitivity scoring section of methodology. Reference IBAT using reference provided. Reference data sources used by IBAT to create this report: <ul style="list-style-type: none"> World Database on Protected Areas World Database of Key Biodiversity Areas IUCN Red List of Threatened Species Species Threat Abatement and Restoration Metric (STAR) <p>(References for data found in ReadMe.)</p>

Strategy Disclosure D Requirements	Outputs to Use from IBAT
<ul style="list-style-type: none"> A description of the process followed to identify priority sites for disclosure. 	<ul style="list-style-type: none"> Refer to methodology.
<ul style="list-style-type: none"> A description of the level of geographic specificity achieved, if and how sites have been aggregated, and the rationale for any aggregation, with reference to general requirement 3; and; The organisations intentions to improve or expand its site assessment activities over the short, medium and long term. 	N/A

2. Overview of requirements for Global Reporting Initiative (GRI) Disclosures 101-4 and 101-5 that can be supported with IBAT.

Disclosure 101-4 and 101-5 Requirements	Outputs to Use from IBAT
101-4-a. explain how it has determined which of its sites and which products and services in its supply chain have the most significant actual and potential impacts on biodiversity'. This is the only disclosure under 101-4. All the rest of the disclosures in the table are under 101-5.	IBAT helps determine which sites potentially have the most significant impact on biodiversity by providing information on the ecologically sensitivity of the area in and around a site. Sites assessed as sensitive are sites where direct operations are likely going to have the most significant impacts on biodiversity. (The extent to which the activities at the operational sites lead to direct drivers of biodiversity loss should also be considered).
101-5-a. report the site and size in hectares of its sites with the most significant impacts on biodiversity.	The report presents the geographic site (name and coordinates) of each site assessed to be in a sensitive site.
101-5-b. for each site reported under 101-5-a, report whether it is in or near an ecologically sensitive area, the distance to these areas, and whether these are: <ul style="list-style-type: none"> i. areas of biodiversity importance; ii. areas of high ecosystem integrity; iii. areas of rapid decline in ecosystem integrity; iv. areas of high physical water risks; v. areas important for the delivery of ecosystem service benefits to Indigenous Peoples, local communities, and other stakeholders; 	<p>A site is in an ecologically sensitive area when it is completely or partially located in the ecologically sensitive area. A site is near an ecologically sensitive area when the ecologically sensitive area does not overlap the site, but it falls within the area of influence or within the radius set by the organization. The organization is required to report the distance only in cases where the site is near an ecologically sensitive area. The organization should report the size in hectares of the ecologically sensitive areas within its sites.</p> <p>IBAT can provide information on areas of biodiversity importance.</p>
101-5-c. report the activities that take place in each site reported under 101-5-a.	
101-5-d. report the products and services in its supply chain with the most significant impacts on biodiversity and the countries or jurisdictions where the activities associated with these products and services take place.	