

WWF Biodiversity Risk Filter

Interpretation Guidance

The WWF Biodiversity Risk Filter (WWF BRF) is a corporate and portfolio-level screening and prioritisation tool that enables companies and financial institutions to understand and assess their biodiversity-related risks. This document provides a short overview of how the outputs of the Biodiversity Risk Assessments should be interpreted and includes links to further resources. Additional detail is available in the [WWF BRF Methodology Documentation](#), which describes the biodiversity risk assessment framework as well as its underlying structure and data sources.

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Understanding Biodiversity Risk Assessment Results

By assessing biodiversity risks, companies and investors can get a detailed understanding of the potential risks facing their operational sites, supply chains, and investments, which will help to better focus efforts and actions to address them. WWF recommends assessing biodiversity risks across a company's value chain and for this reason provides default options to group sites according to Supply Chain Management (SCM) classification. Within the Assess module of the WWF BRF, all uploaded sites, companies and groups can be analysed for biodiversity risk. Different visualizations (e.g., maps, graphics and tables) are available to help interpret the risk assessment results. The WWF BRF's assessment is based on a company site's geographic location and its industry sector. Both together inform a site's scope risks. The tool calculates a scope risk for 33 different indicators, each representing an aspect of biodiversity-related risk. For each of the indicators a scope risk score is calculated based on assessment of the state/condition of that aspect of biodiversity at a specific location and the dependency/impact of the industry sector on that indicator.

Dependency in this case means, that the chosen industry relies on ecosystem services for e.g., provisioning of water and timber, regulating or mitigating. Conversely, industries also impact biodiversity in the places they operate in through direct or indirect exploitation, pollution, land use change (including the conversion, degradation, and modification of ecosystems) etc.

Whilst the BRF provides multiple visualizations of risk assessment results, users can also download the results from the BRF assessment. The excel sheet contains risks scores for all sites assessed - including each indicator, risk category, and risk type. As it can be overwhelming to try and interpret all risk score results, users can apply the following key principles.

Key Principles to Interpret the Risk Assessment Results

WWF recommends companies and investors apply the following key principles to help interpret risk assessment results:

1. Establish a risk score threshold to identify sites to focus on

There is no hard rule for establishing risk score thresholds to be able to compare and identify which sites to focus on. According to the WWF BRF risk score classification, sites with risk scores that are above 3.4 are considered high risk. By taking a more conservative approach, WWF recommends users to also pay attention to sites with risk scores equal or greater than 3.0 as a reference point. However, instead of taking a risk threshold approach, users may want to focus their attention on a certain percentage of sites (e.g., 25% or 30%) of higher risk relative to the entire portfolio, depending on resources and ambitions.

2. Get a first big picture overview by comparing the two risk types – physical and reputational

At this point in time, the WWF BRF assesses physical and reputational risk. Therefore, to understand what is driving biodiversity risks, we advise to examine and compare the two risk type scores to identify which risk type has the highest risk score.

For example, if the physical risk score is higher than the reputational risk score, then it is likely that this risk type is more critical to the site(s).

3. Focus on the risk category level to identify drivers of risk in a comprehensive manner

It is important to understand which risk categories may be driving the result for the risk type. To do this, users should look at the risk scores for each risk category. For example, examine the scores for the risk categories within Reputational Risk: Environmental Factors, Socioeconomic Factors, Additional Reputational Factors. This will help to understand which of these could be driving the higher risk score for Reputational Risk. In general, users should focus on risk categories with risk scores greater than their established risk threshold.

4. Understand what data is used to inform risk categories by looking at indicators

It is important to understand which indicators (and their underlying datasets) are used to inform the different risk categories. Each risk indicator is based on datasets with their own set of assumptions. The next chapter provides an overview of all risk types, risk categories and indicator to explain what a high risk score signifies.

To gain a deeper understanding of the indicators and the underlying datasets, please refer to our [WWF BRF Methodology Documentation](#).

5. Next steps – how do I respond to high risk scores?

The WWF BRF will include a Respond module soon, which will provide the user with a list of actions to respond to high risk scores. In the meantime, you can find additional resources to address your high risk scores linked in the next chapter.

Interpretive Guidance for High Risk Scores

A. Physical Risk

Physical risk is driven by the ways in which a business depends on nature and can be affected by both natural and human-induced conditions of land- and seascapes. It comprises the risk categories: 1) Provisioning Services, 2) Regulating & Supporting Services - Enabling, 3) Regulating Services - Mitigating, 4) Cultural Services and 5) Pressures on Biodiversity.

An overall high physical risk score is driven by a high dependence on ecosystem services (risk categories 1-4) OR high impact on pressures on biodiversity (risk category 5), as well as by compromised ecosystem services OR high existing pressures on biodiversity at the site locations.

Further resources: If you have high risk sites in Europe that are associated with the food sector (e.g. farms, food companies), you may consider using the [Biodiversity Performance Tool and/or the Biodiversity Monitoring System](#) for further information. The Biodiversity Performance Tool (BPTi) supports farmers in the preparation and biodiversity action plan - a key element for good biodiversity management. Well-founded action or management plans and their careful implementation are now required by more and more food standards and companies. Food companies, standards organizations or producer groups can use the Biodiversity Monitoring System (BMS) designed to evaluate a group of producers, and showcase results from aggregated data.

1. Provisioning Services

Many industries or companies rely directly on the provisioning of natural inputs for their operations or production. As such, declines in the quantity or quality of direct inputs for feed, raw material, genetic materials, etc., can result in an increased cost or disruption of production. This risk category includes four of the main natural resources needed for production: freshwater, timber, wild flora and fauna species as well as marine fish.

A high risk score in this risk category is a result of high dependency of your industry on these natural inputs in combination with high location risk scores. Areas of very high location risk in this category are likely to experience shortages of these natural resources.

1.1 Water Scarcity

Water scarcity refers to the physical abundance or lack of freshwater resources. It can significantly impact business such as production/supply chain disruption, higher operating costs, and growth constraints.

A high risk score for this indicator is a result of high dependency of your industry on this resource in combination with a high location risk score. Areas of very high location risk are likely to experience very high levels of water scarcity at this location.

Further resources: To learn more about this specific indicator and assess it in more detail, we recommend using the [WWF Water Risk Filter](#)

1.2 Forest Productivity and Distance to Markets

Timber availability refers to the physical abundance and commercial accessibility of realizable timber provisions. As timber is used for house building, furniture and in food storage, water and agricultural infrastructure, a lack of timber supply can significantly impact business through production/supply chain disruption, higher operating costs, and growth constraints.

Please note that this is a global indicator and may not be applicable in certain conditions, e.g. in sparsely populated areas such as some boreal regions and for plantations with connection to infrastructure that is independent of population centers.

A high risk score for this indicator is a result of high dependency of your industry on this resource in combination with a high location risk score. Areas of very high location risk are estimated to have no realizable timber provisions due to unavailability and/or commercial inaccessibility of the resource.

Further resources: To learn more about this specific indicator and assess it in more detail, we recommend using the [Co\\$ting Nature Tool](#). You can learn more about tackling illegal and unsustainable logging and trade through the new [WWF Wood Risk Tool](#).

1.3 Limited Wild Flora & Fauna Availability

This indicator refers to the unavailability of commercially harvested species. Wild species are used in many applications, including for medicinal, cosmetic, aromatic and genetic purposes. They are used globally as feed, fibre (e.g., for clothing, building materials, etc.), fuel, medicines and food ingredients.

A high risk score for this indicator is a result of high dependency of your industry on this resource in combination with a high location risk score. Areas of very high risk are estimated to experience high intensity of unsustainable commercial harvesting.

Further resources: To learn more about responsible sourcing of wild-harvested plant ingredients and how you might be able to address high risk scores in this indicator, we recommend using the [TRAFFIC WildCheck](#) project.

1.4 Limited Marine Fish Availability

This indicator refers to the stock status of marine fish. As the largest traded food commodity in the world, seafood provides sustenance to billions of people worldwide. More than 85% of the world's fisheries have been pushed to or beyond their biological limits.

A high risk score for this indicator is a result of high dependency of your industry on this resource in combination with a high location risk score. In areas of very high risk for this indicator it was estimated that over 95% fish stocks collapsed/over-exploited/exploited/rebuilding.

Further resources: To learn more about this specific indicator and assess it in more detail, we recommend using [Sea Around Us](#); [WWF Fischratgeber](#)

2. Regulating & Supporting Services - Enabling

Many businesses rely on regulating & supporting ecosystem services that enable production processes, including the cultivation of crops or breeding of animals. Declines in enabling ecosystem services can result in increased costs of production or inability to operate. This risk category includes five of the main enabling ecosystem services needed for various types of industries: soil condition, water condition, air condition, ecosystem condition, and pollination.

A high risk score in this risk category is a result of high dependency of your industry on these enabling ecosystem services in combination with high location risk scores. Areas of very high location risk in this category are likely to experience a lack of enabling ecosystem services.

2.1 Soil Condition

Soil condition indicates whether soil can perform basic functions to benefit human use and ecosystems alike. This indicator is based on soil organic carbon (SOC) content. SOC is the main component of soil organic matter and is a prerequisite for soil functions and food production, mitigation and adaptation to climate change, and the achievement of the Sustainable Development Goals (SDGs).

A high risk score for this indicator is a result of high dependency of your industry on this ecosystem service in combination with a high location risk score. Areas of very high risk are estimated to have poor soil condition, due to an average of less than 30 tons of soil organic carbon per hectare.

2.2 Water Condition

Water condition indicates whether the water quality is fit for human use and ecosystems alike. Poor water quality – water pollution – can impact a company by causing serious health issues, as well as through increased operating costs and a reduction in production or growth.

This indicator has been calculated separately for freshwater and marine areas. A high risk score for this indicator is a result of high dependency of your industry on this ecosystem service in combination with a high location risk score. Areas of very high risk are estimated to have extremely poor water quality due to high BOD, EC and nitrogen in freshwater and high nutrient levels and acidification in marine water.

Further resources: [WWF Water Risk Filter](#)

2.3 Air Condition

Air condition indicates whether the air quality is fit for human use and ecosystems. This indicator is based on PM2.5 concentrations. PM2.5 is the annual global surface concentration (micrograms per cubic meter) of all composition ground-level fine particulate matter of 2.5 micrometers or smaller. Exposure to high average concentrations of PM2.5 over time has been a reliable predictor of heightened mortality.

A high risk score for this indicator is a result of high dependency of your industry on this ecosystem service in combination with a high location risk score. Areas of very high risk experience more than 50 mg/m² of PM2.5.

2.4 Ecosystem condition

Ecosystem condition indicates whether the natural environment is intact and connected. Poor ecosystem condition can result in businesses having restricted access in the long-term to the quantity and quality of resources and enablers needed for their activities as well as other ecosystem services they rely on. The preservation and restoration of terrestrial, freshwater and marine habitat is a key component in addressing biodiversity risk, and to achieve the Sustainable Development Goals (SDG).

This indicator has been calculated separately for terrestrial/freshwater and marine areas. A high risk score for this indicator is a result of high dependency of your industry on this ecosystem service in combination with a high location risk score. Areas of very high risk are estimated to have low levels of ecosystem intactness (below 70% or 82% for terrestrial and marine areas, respectively) and low levels of connectivity (high fragmentation of rivers and low mammal movement probability).

2.5 Pollination

This indicator assesses whether there is enough natural habitat surrounding cropland to support natural pollination. Up to two-thirds of all crops require some degree of animal pollination to reach their maximum yields, and natural habitat around farmlands can support healthy populations of wild pollinators by providing them with foraging and nesting resources.

A high risk score for this indicator is a result of high dependency of your industry on this ecosystem service in combination with a high location risk score. Areas of very high risk have little natural habitat to sustain pollination and therefore have a higher ratio of people fed/acre of natural habitat.

3. Regulating Services - Mitigating

The occurrence of natural hazards can disturb or disrupt projects, operations, or entire value chains, and can in some cases result in severe damage to or loss of assets. Intact ecosystems can help to mitigate the impact of some natural hazards. This risk category includes the following natural hazards: landslides, wildfire hazard, plant/forest/aquatic pests and diseases, herbicide resistance and extreme heat. Please note that the risk from floods and droughts can be estimated with the WWF Water Risk Filter.

A high risk score for this indicator is a result of high dependency of your industry on the absence or mitigation of these natural hazards in combination with high location risk scores. Areas of very high location risk in this category are likely to experience a higher exposure to these natural hazards.

3.1 Landslides

This indicator assesses the potential threat of rainfall- and earthquake-triggered landslides. Landslides impose significant risks to human lives and economic activities. Landslides have become more prevalent because of anthropogenic disturbances, such as land-cover changes, land degradation and expansion of infrastructure. These are further exacerbated by more extreme precipitation due to climate change, which is predicted to trigger more landslides and threaten sustainable development in vulnerable regions.

A high risk score for this indicator is a result of high dependency of your industry on the absence or mitigation of this natural hazard in combination with high location risk scores. Areas of very high risk have a high landslide susceptibility according to rainfall patterns, terrain slope, geology, soil, land cover and (potentially) earthquakes that make localized landslides a frequent phenomenon.

3.2 Wildfire Hazard

This indicator assesses the potential threat of wildfires due to fire weather intensity. Wildfires impose significant risks to human lives and economic activities. In extreme fire weather events, strong winds and wind-born debris may even weaken the integrity of infrastructure. Climate change may further increase the frequency of fire weather occurrences, including an increase in temperature, greater variance in rainfall and increase in fire season duration. Climate projections indicate that there could also be an increase in the severity of fire.

A high risk score for this indicator is a result of high dependency of your industry on the absence or mitigation of this natural hazard in combination with high location risk scores. Areas of very high risk have a very high maximum predicted fire weather intensity (>120) for a 10-year return period.

3.3 Plant/Forest/Aquatic Pests and Diseases

This indicator assesses the potential threat from transboundary animal and plant pests and diseases. As genetic and species diversity is lost and ecosystems are degraded, the complexity of the overall system can be compromised, making it more vulnerable and potentially creating new opportunities for disease emergence. Emerging diseases include transboundary animal and plant pests and diseases, including forest/timber pests and aquatic animal diseases. Food safety threats can have a large impact on food security, human health, livelihoods and trade.

A high risk score for this indicator is a result of high dependency of your industry on the absence or mitigation of this natural hazard in combination with high location risk scores. Areas of very high risk have a very high number (>42) of forecasted transboundary animal and plant pests and diseases.

3.4 Herbicide Resistance

This indicator assesses the number of occurrences of herbicide resistant weeds. Herbicide resistance is the ability of a weed to survive an herbicide application that had been used to contain that population. As unwanted plants compete with crops, issues of crop loss and contamination arise.

A high risk score for this indicator is a result of high dependency of your industry on the absence or mitigation of this natural hazard in combination with high location risk scores. Areas of very high risk have a very high number (>45) of herbicide resistant weed occurrences.

3.5 Extreme Heat

This indicator assesses the threat of extreme heat during a 5-year return period. Extreme heat has an obvious impact on human health, but it is also relevant to a wide array of economic activities and industries, including the built environment. With climate change, the frequency and the intensity of abnormal weather and extreme temperature patterns have dramatically increased, and the shift to warmer temperatures, driven by climate change, will only exacerbate this phenomenon.

A high risk score for this indicator is a result of high dependency of your industry on the absence or mitigation of this natural hazard in combination with high location risk scores. Areas of very high risk experience a very high (32°C) daily maximum WBGT (wet bulb globe temperature) with a 5-year return period.

3.6 Tropical Cyclones

This indicator assesses the predicted maximum wind speed (mph) on a 50-year return period. Storms can impact companies and value chains through a variety of ways, including building and property damage, flooding or power outages, which may lead to temporary or permanent company closures and loss of revenue.

A high risk score for this indicator is a result of high dependency of your industry on the absence or mitigation of this natural hazard in combination with high location risk scores. Areas of very high risk are predicted to experience very high maximum wind speeds (>120mph) on a 50-year return period.

4 Cultural Services

Some industries such as tourism, real estate and education can depend highly on the presence of culturally valuable land-/seascapes or specific sites. Tourism is an engine for jobs and investments. The degradation or loss of key attractive features in an area can negatively impact businesses that rely on these characteristics. This risk category only contains one indicator. The risk score will therefore be the same for risk category and indicator.

4.1 Tourism Attractiveness

This indicator measures the availability of natural and cultural resources. Some industries, such as tourism, real estate and education, can depend highly on the presence of touristic valuable land or seascapes or specific sites. Tourism is an engine for jobs and investment. The degradation or loss of key attractive features in an area can negatively impact companies that rely on them.

A high risk score for this indicator is a result of high dependency of your industry on the presence of natural and cultural resources in combination with high location risk scores. Areas of very high risk have a very low natural and cultural resource score.

5 Pressures on Biodiversity

Direct drivers or pressures are drivers that unequivocally influence biodiversity and ecosystem processes. Areas with high pressures on biodiversity are likely to decline in the future, independent from whether the current status of biodiversity is intact or already compromised. This risk category includes the following pressures on biodiversity: land, freshwater, and sea use change; tree cover loss; invasives and pollution.

A high risk score for this indicator is a result of high impact of your industry on these pressures in combination with already high location risk scores. Areas of very high location risk in this category are likely to be exposed to high pressures on biodiversity.

5.1 Land, Freshwater and Sea Use Change

This indicator measures cropland expansion, river fragmentation and pressures on marine environments through shipping and direct human impact. Land- and sea-use change is the major human influence on habitats. Habitat loss is one of the biggest threats to biodiversity and is the number one reason species go extinct. Clearcutting forests to create agricultural lands, creating dams that change river flow and intensifying shipping in marine environments are all examples of land- and sea-use change that cause habitat destruction.

This indicator has been calculated separately for terrestrial/freshwater and marine areas. A high risk score for this indicator is a result of high impact of your industry on biodiversity through this pressure in combination with high location risk scores. Areas of very high risk experienced high percentages of cropland expansion (>12%) and a high fragmentation of rivers; or high pressure from shipping and direct human impact.

5.2 Tree Cover Loss

This indicator measures tree cover loss. Land- and sea-use change is the major human influence on habitats. Habitat loss is one of the biggest threats to biodiversity and is the number one reason species go extinct. Around half of the world's original forests have disappeared, and they are still being removed at a rate 10x higher than any possible level of regrowth.

A high risk score for this indicator is a result of high impact of your industry on biodiversity through this pressure in combination with high location risk scores. Areas of very high risk have experienced high rates of tree cover loss (>8%).

You can learn more about tackling illegal and unsustainable logging and trade through the new [WWF Wood Risk Tool](#).

5.3 Invasives

This indicator is based on the presence of the world's worst invasive species. Invasive and alien species have been reported around the world, resulting in loss of biodiversity at local and regional scales and causing significant economic damage. Invasive species may be indigenous and/or exotic or alien. They occur mostly in terrestrial and aquatic ecosystems, both marine and freshwater, and can disrupt the ecological functioning of natural systems. Invasive species can out-compete local and indigenous species for natural resources, with negative implications for biodiversity.

A high risk score for this indicator is a result of high impact of your industry on biodiversity through this pressure in combination with high location risk scores. Areas of very high risk have a very high presence of the world's worst invasive species (>45).

5.4 Pollution

This indicator is based on nutrient, pesticide and air pollution. Pollution is an important driver of biodiversity and ecosystem change throughout all biomes. While terrestrial ecosystems have been affected by nitrogen-phosphorous fertilisers, these have had a far more pernicious effect on the biodiversity of freshwater and marine habitats, leading to eutrophication and hypoxic or 'dead' zones that support no aquatic life. PM 2.5 is the annual global surface concentrations (micrograms per cubic meter) of all composition ground-level fine particulate matter of 2.5 micrometers or smaller. Exposure to high average concentrations of PM2.5 over time has been a reliable predictor of heightened

mortality. There are multiple sources of air pollution, including emissions from industries, through the use of fossil fuels, agricultural processes, and vehicular emissions.

A high risk score for this indicator is a result of high impact of your industry on biodiversity through this pressure in combination with high location risk scores. Areas of very high risk have high levels of nitrogen and pesticides per hectare of cropland ($>77\text{kg/ha}$; $>5.9\text{kg/ha}$, respectively); high total N concentrations in freshwater ($>2.6\text{mg/L}$); a very high nutrient & chemical pollution impact score in marine areas; experience more than 50 mg/m^2 of PM 2.5.

B. Reputational Risk

Reputational risk can result from a company's actual or perceived impacts on nature and people. Reputational risk represents stakeholders' and local communities' perceptions on whether companies conduct business sustainably or responsibly with respect to biodiversity, and can ultimately affect brand value and market share, among other factors. Reputational risk is influenced both by operational factors (i.e., what a company does) and place-based factors (i.e., the conditions of the places in which those operations occur). It comprises the risk categories: 6) Environmental Factors; 7) Socioeconomic Factors and 8) Additional Reputational Factors.

An overall high reputational risk score is driven by a high impact on environmental assets and socioeconomic conditions (risk categories 7-8) OR high dependency on additional reputational factors (risk category 8), in combination with presence of environmental assets and poor socioeconomic conditions OR aggravating additional reputational factors at the site locations.

Further resources: If you have high risk sites in Europe that are associated with the food sector (e.g. farms, food companies), you may consider using the [Biodiversity Performance Tool and/or the Biodiversity Monitoring System](#) for further information. The Biodiversity Performance Tool (BPTi) supports farmers in the preparation and biodiversity action plan - a key element for good biodiversity management. Well-founded action or management plans and their careful implementation are now required by more and more food standards and companies. Food companies, standards organizations or producer groups can use the Biodiversity Monitoring System (BMS) designed to evaluate a group of producers, and showcase results from aggregated data.

6 Environmental Factors

Reputational risk can be driven by negative impacts on local environmental assets and the local prevalence of biodiversity-related issues. Environmental Reputation Risk considers the following factors: 1) Protected and Conserved Areas, 2) Key Biodiversity Areas, 3) Other Important Delineated Areas 4) Ecosystem Condition, 5) Range Rarity.

A high risk score in this risk category is a result of high impact of your industry on these environmental assets in combination with already high location risk scores. Areas of very high location risk in this category are likely to have a high number of local environmental assets.

6.1 Protected and Conserved Areas

This indicator is based on overlap of the assessment units with protected areas (PA). Reputational risk will be influenced heavily by proximity to protected areas, particularly as these two designations are used in corporate and financial safeguards.

A high risk score for this indicator is a result of high impact of your industry on PAs in combination with high location risk scores. Assessment units with very high risk have $>30\%$ overlap with PA Categories I-IV + not categorized PA's.

Further resources: For more detailed information on local protected and conserved areas, we recommend using [IBAT](#). IBAT is a subscription-based service providing open and free access to biodiversity maps as well as added-value paid-for services such as reports, packaged data downloads, and web services.

6.2 Key Biodiversity Areas

This indicator is based on overlap of the assessment units with Key Biodiversity Areas (KBA). Reputational risk will be influenced heavily by proximity to Key Biodiversity Areas, particularly as these two designations are used in corporate and financial safeguards. Key Biodiversity Areas (KBAs) are the most important places in the world for species and their habitats. Faced with a global environmental crisis we need to focus our collective efforts on conserving the places that matter most.

A high risk score for this indicator is a result of high impact of your industry on KBAs in combination with high location risk scores. Assessment units with very high risk have >50% overlap with a KBA.

Further resources: For more detailed information on local KBAs, we recommend using [IBAT](#). IBAT is a subscription-based service providing open and free access to biodiversity maps as well as added-value paid-for services such as reports, packaged data downloads, and web services.

6.3 Other important delineated areas

This indicator is based on a range of areas other than protected areas and Key Biodiversity Areas (KBA), that have been delineated due to their contribution to different aspects of biodiversity. Reputational risk will be influenced heavily by proximity to protected areas and KBAs.

A high risk score for this indicator is a result of high impact of your industry on other important delineated areas in combination with high location risk scores. Areas of very high risk for this indicator overlap with intact forest landscapes or vulnerable marine ecosystems.

6.4 Ecosystem Condition

Ecosystem condition indicates whether the natural environment is intact and connected. Reputational risk is likely to be higher in scapes that are still intact/connected/etc. (as the impact of corporate activities will be more significant) and of higher profile (as the social / cultural response and critique will be greater).

A high risk score for this indicator is a result of high impact of your industry on ecosystem condition in combination with high location risk scores. Areas of very high risk are estimated to have high levels of ecosystem intactness (>97.5 and 100% for terrestrial and marine areas, respectively) and high levels of connectivity (low fragmentation of rivers and high mammal movement probability).

6.5 Range Rarity

This indicator is based on range rarity measuring the degree of endemism of mammals, amphibians and bird species. Reputation risk will likely be highest where corporate actions cause or contribute significantly to a species extinction.

A high risk score for this indicator is a result of high impact of your industry on endemic species in combination with high location risk scores. Areas of very high risk have a very high range rarity score (>0,0008).

Further resources: For more detailed information on potential impacts on local species, we recommend further investigation using [IBAT](#). IBAT is a subscription-based service providing open and free access to biodiversity maps as well as added-value paid-for services such as reports, packaged data downloads, and web services.

7 Socioeconomic Factors

Reputational risk can be driven by negative impacts on local socioeconomic conditions and the local prevalence of socioeconomic issues. Socioeconomic factors within the WWF BRF comprises the risk sub-categories: 1) Indigenous Peoples (IPs); Local Communities (LCs) Lands and Territories, 2) Resource Scarcity: Food - Water – Air, 3)Labor and Human Rights, 4) Financial Inequality.

A high risk score for this indicator is a result of high impact of your industry on these socioeconomic conditions in combination with already high location risk scores. Areas of very high location risk in this category are likely to be have poor socioeconomic conditions.

7.1 Indigenous Peoples (IPs); Local Communities (LCs) Lands and Territories

Whilst global data on IPLC territories exists, this indicator has not yet been included in the map visualisation and the risk assessment. Inclusion of this indicator will be a priority for the next phase.

7.2 Resource Scarcity: Food - Water – Air

The indicator is a composite of food insecurity, water scarcity and air quality data. Sometimes named 'The Big Three' air, water and food are essential for human survival.

A high risk score for this indicator is a result of high impact of your industry on resource scarcity in combination with high location risk scores. Areas of very high risk have a high percentage of moderate or severe food insecurity in the total population (>57.7%); are likely to experience very high levels of water scarcity or experience more than 50 mg/m² of PM 2.5.

7.3 Labor and Human Rights

The indicator is a composite of data on internationally ratified human rights instruments and the International Trade Union's Global Rights Index. Labor and human rights are at the basis of just working conditions for employees.

A high risk score for this indicator is a result of high impact of your industry on labor and human rights in combination with high location risk scores. Areas of very high risk have very few internationally ratified human rights instruments (<=8) and are rated to be the world's worst countries for workers (score of 5 and 5+).

7.4 Financial Inequality

This indicator uses the GINI index to estimate financial inequality. For businesses, systemic financial inequality is a great source of risk. It limits productivity and has the potential to destabilize supply chains, trigger political instability, and jeopardize their social license to operate.

A high risk score for this indicator is a result of high impact of your industry on financial inequality in combination with high location risk scores. Areas of very high risk have a very high GINI index (>49.8)

8 Additional Reputational Factors

Reputational risk can be driven by the actual or perceived importance or value of ecological assets and socioeconomic conditions and can be aggravated further by the level of public scrutiny on businesses operating in a given geography. Additional reputational factors that are considered within the BRF include: 1) Media Scrutiny, 2) Political Situation, 3) Sites of International Interest 4) Risk Preparation.

A high risk score in this risk category is a result of high dependency of your industry on these additional reputational factors in combination with already high location risk scores. Areas of very high location risk in this category are likely to be exposed to factors aggravating the reputational risk.

8.1 Media Scrutiny

For this indicator, RepRisk's country weighted score of negative news for all ecological and social tags was used. Media scrutiny indicates whether there has been documented negative news (e.g., incidents, criticism and controversies) related to environmental and social issues that can affect a company's reputational risk.

A high risk score for this indicator is a result of high dependency of your industry on media scrutiny (due to a high level of negative news stories associated with your industry) in combination with a high location risk score. Areas of very high risk have many incidents with high severity ratings related to environmental or social issues.

Further resources: To learn more about this specific indicator and assess it in more detail, we recommend using the [RepRisk](#) tool.

8.2 Political Situation

This indicator is based on four datasets assessing level of freedom, corruption, governance and violence against land and environmental defenders. Unstable and ineffective institutions & governance can potentially undermine business viability and increase potential for reputational risks.

A high risk score for this indicator is a result of high dependency of your industry on the political situation in combination with a high location risk score. Areas of very high risk have a very low Freedom in the World Index (<30); are assessed to be highly corrupt (<20); a very low percentile rank of government effectiveness (<20); a very high number of killings of land and environmental defenders (>5).

8.3 Sites of International Interest

This indicator is based on overlap of Natural World Heritage Sites and RAMSAR sites with assessment units. Wetlands are among the most diverse and productive ecosystems. They provide essential services and supply all our fresh water.

A high risk score for this indicator is a result of high dependency of your industry on the sites of international interest in combination with a high location risk score. Assessment units of very high risk overlap with both Natural World Heritage Sites and RAMSAR sites.

Further resources: For more information on Natural World Heritage Sites and RAMSAR sites, we recommend further investigation using [IBAT](#). IBAT is a subscription-based service providing open and free access to biodiversity maps as well as added-value paid-for services such as reports, packaged data downloads, and web services.

8.4 Risk Preparation

For this indicator, the World Bank's Index of Risk Preparation was used. The level of risk preparation has implications for the kind of response needed to address the realization of (biodiversity) risks which, in turn, can contribute to vicious or virtuous circles in risk management.

A high risk score for this indicator is a result of high dependency of your industry on the level of risk preparation in combination with a high location risk score. Areas with very high risk for this indicator are in the least prepared quintile.