

CENTRAL**RETAIL**

Leading EXCELLENCE, Advancing SUSTAINABILITY

Biodiversity Risk Assessment 2024



Biodiversity Risk Assessment: Implementation



Scoping the Assessment

- Identifying industry materiality
 - Dependencies
 - Impacts
- Identifying the company's operational sites to be assessed throughout value chain.



Collecting Location-specific Company and Supply Chain Data

- Specifying site's location
- Including adjacent areas to assess indirect impacts
- Specifying industry sector
- Identifying business importance of each operational sites



Assessing Biodiversity-related Risks

- Calculating scope risk (risk score per indicator)
- Calculating site-level risk (overall risk score)
- Interpreting and evaluating biodiversity risks from the WWF BRF calculation
- Evaluating risks from surrounding ecosystems and protected areas



Aggregating Biodiversity Risk to the Company and Portfolio Level

- Integrating the identified biodiversity risks into multi-disciplinary company-wide risk management processes

Central Retail Corporation (CRC) incorporated the WWF Biodiversity Risk Filter (WWF's Risk Filter Suite v2.0) and WWF's biodiversity risk assessment as valuable references to evaluate physical and reputational risks from a biodiversity standpoint. The WWF BRF serves as a location-specific approach, enabling the assessment of potential risks, both impacts and dependencies, on biodiversity stemming from the company's operations. By considering various factors tied to the operational location, such as threatened species, ecosystems, and protected areas, this tool comprehensively evaluates the potential effects on biodiversity.

Scoping the Assessment

In order to conduct the biodiversity risk assessment, the first step involves determining the jurisdictions or provinces where CRC has operational sites. The assessment will focus on these specific locations. The table below provides a summary of the operational sites that will be included in the assessment, and an overview of the assessment's scope across CRC's value chain.

Type of Site	Location
Own operation, Subsidiaries, and Joint Ventures	Thailand (1,934 site)
Upstream Activities	Thailand (6,596 site) China (684 site) United States (166 site) India (34 site) Italy (24 site) United Kingdom (20 site) Singapore (15 site) France (10 site) Canada (13 site) Vietnam (11 site) Others (93 site)
Downstream Activities	Thailand (9 site)

In this assessment, CRC includes its own operations, subsidiaries, joint ventures, and extends across the supply chain, covering both upstream and downstream activities.

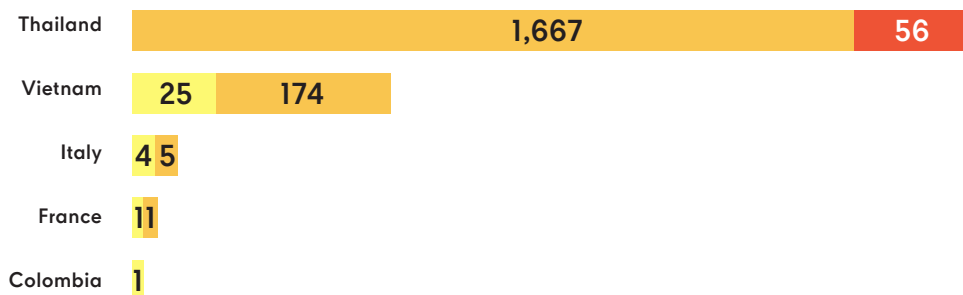


Collecting Location-specific Company and Supply Chain Data

In this step, CRC has identified the geographic location of the assessed site in terms of the coordinates (Latitude/Longitude) on the map, and the industry sector each site corresponds to. Risks are evaluated by WWF Biodiversity Risk Filter. Results are projected based on location that related to retailing industry, CRC activities do not impact the risk level.

Number of Sites by Country

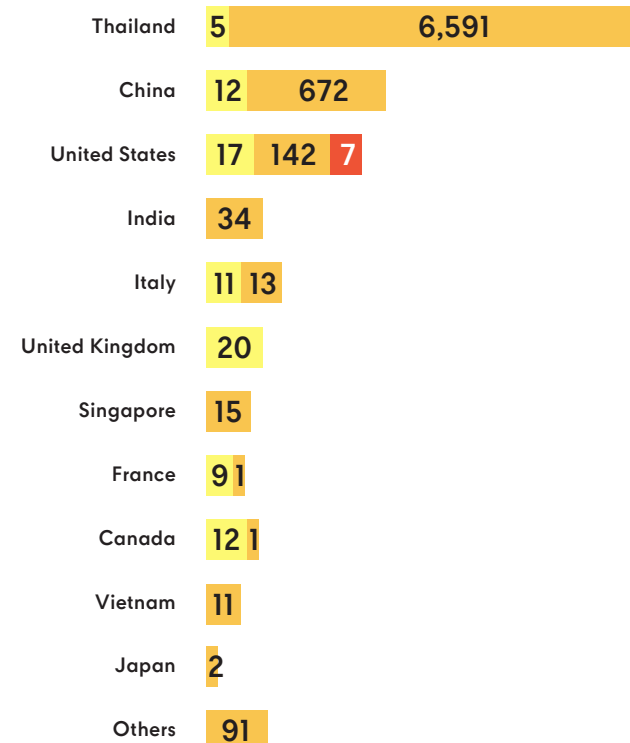
Own operation, Subsidiaries, and Joint Ventures



Downstream Activities



Upstream Activities





Biodiversity Sensitivity Screening for Adjacent Areas to Own Operations

CRC extends the biodiversity risk assessment beyond site boundaries within own operations to include adjacent areas within 0–5 km radius of each location. Using GIS-based spatial analysis, own operation site coordinates were overlaid with global datasets on Protected Areas, Key Biodiversity Areas (KBA), IUCN Red List habitats, and recent land use change.

This approach enabled the classification of sites by proximity to sensitive biodiversity areas, allowing CRC to identify potential indirect impacts and strengthen biodiversity risk management.

Risk Level	Distance from sensitive biodiversity area	Number of Own Operation Sites
High	0–2 km	20 sites
Medium	2–5 km	8 sites
Low	>5 km	1,906 sites

Assessing the Biodiversity Risks

Own operation, Subsidiaries, and Joint Ventures

According to the result of the biodiversity-related risk assessment, most of the operational sites within CRC's business value chain have medium risk potentials. Concerningly, 56 sites have a high physical risk, and 3 sites have a very high reputational risk

Spatial Analysis

Scape Physical Risk



Location: Italy



Location: Thailand and Vietnam



Location: Italy



Location: Thailand and Vietnam

Number of Sites by Risk Type



WWF Biodiversity Risk
Filter levels

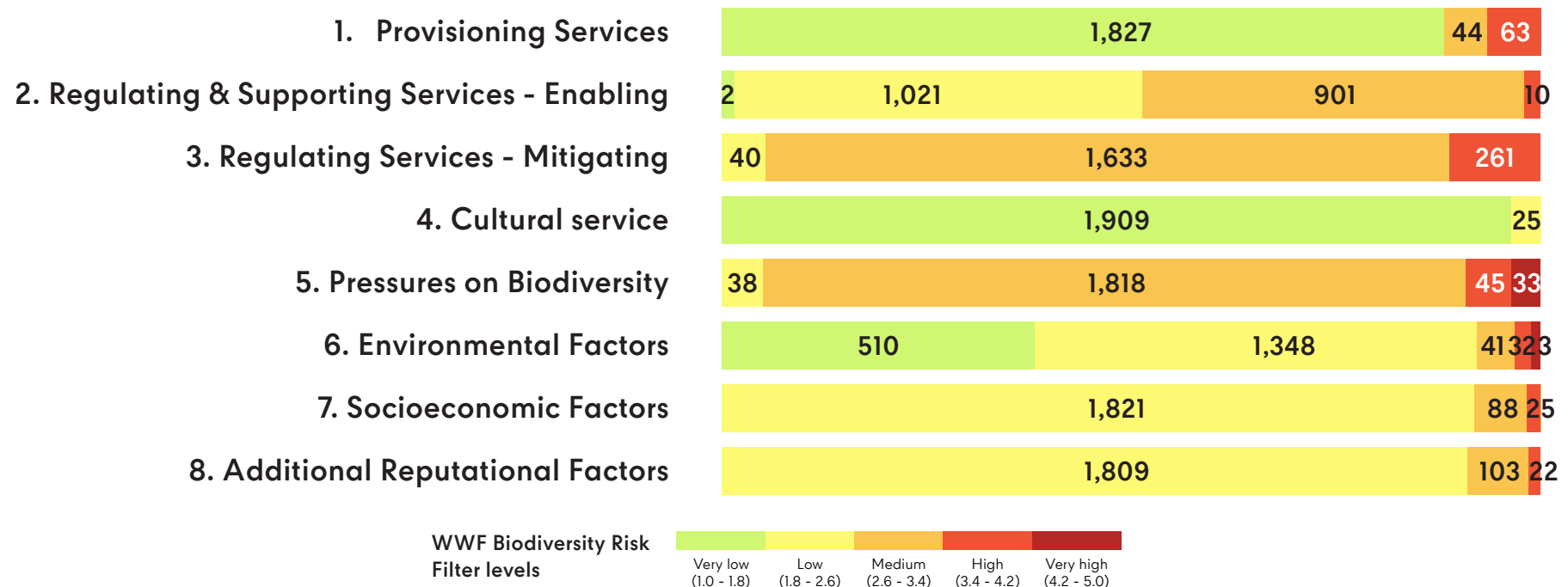




Assessing the Biodiversity Risks

The infographic shows the number of CRC's operational sites that have been assessed for biodiversity risk. The summary of the risk types that either half of CRC's sites encountered above medium risk level, or have at least one site assessed as High or Very High levels

Number of Sites by Risk Category



Physical Risk:

1. Provisioning Services

- Background: Many industries or companies rely directly on the provisioning of natural inputs for their operations or production. As such, declines due to ecosystem service degradation in the quantity or quality of direct inputs for feed, raw materials, genetic materials, etc. can result in increased costs or disruption of production.
- Statistics: 63 high risk site and 44 medium risk sites
- Risks: water scarcity, limited wild flora & fauna

2. Regulating & Supporting Services - Enabling

- Background: 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.
- Statistics: 10 high risk sites and 901 medium risk sites
- Risks: Soil edition, Water edition, Air edition, Ecosystem edition, and Pollination

3. Regulating Services – Mitigating

- Background: The occurrence of natural hazards such as landslides, fires and storms can disturb or disrupt projects, operations, or entire value chains, and in some cases can result in severe damage to loss of assets. Intact ecosystems can help to mitigate the impact of some natural hazards.
- Statistics: 261 high risk sites and 1,633 medium risk sites
- Risks: landslides, fire hazards, plant/forest/aquatic pests and diseases, extreme heat, tropical cyclones

5. Pressures on Biodiversity

- Background: Direct drivers or pressures are drivers that unequivocally influence biodiversity and ecosystem processes.
- Statistics: 33 very high risk sites, 45 high risk sites, and 1,818 medium risk sites
- Risks: land, freshwater and sea use change, tree cover loss, invasive species, pollution

Reputational Risk:

6. Environmental Factors

- Background: Reputational risk can be driven by negative impacts on local environmental assets and the local prevalence of biodiversity-related issues.
- Statistics: 3 very high risk sites, 32 high risk sites, and 41 medium risk sites
- Risks: protected/conserved areas, key biodiversity areas, other important delineated areas, ecosystem condition, range rarity

7. Socioeconomic Factors

- Background: Reputational risk can be driven by negative impacts on local socioeconomic conditions and the local prevalence of socioeconomic issues.
- Statistics : 25 high risk sites and 88 medium risk sites
- Risks: Indigenous Peoples, Scarcity, Labor and Human Rights, and Financial Inequality

8. Additional Reputational Factors

- Background: Reputational risk can be driven by the actual or perceived importance or value of ecological assets and socioeconomic conditions and the level of public scrutiny of companies operating in a given geography.
- Statistics: 22 high risk sites and 103 medium risk sites
- Risks: media scrutiny, sites of international interest

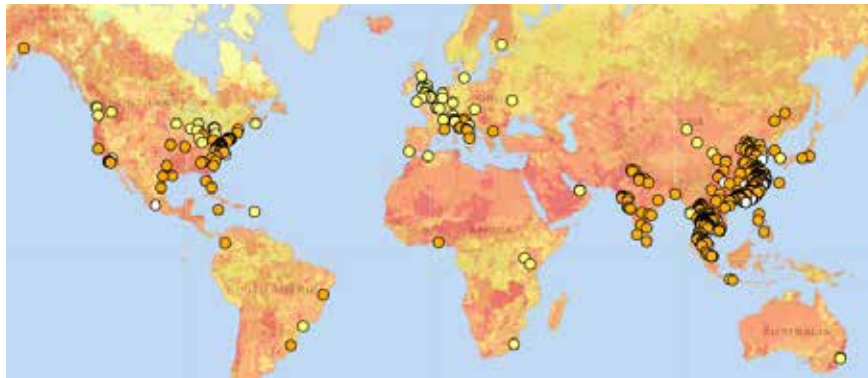


Assessing the Biodiversity Risks

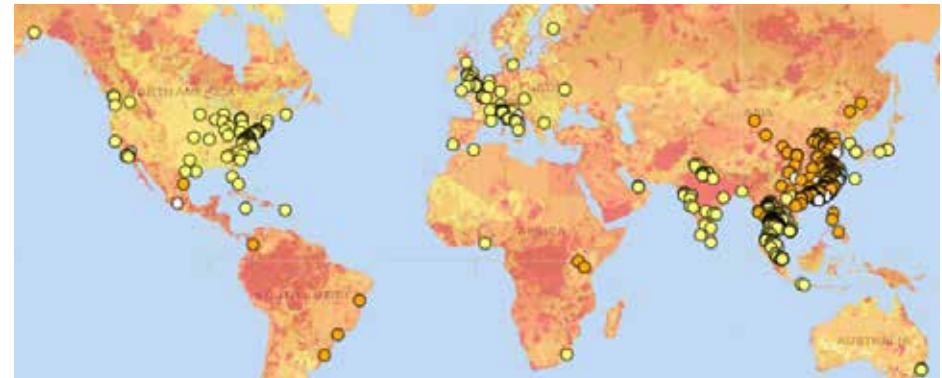
Upstream Activities

According to the result of the biodiversity-related risk assessment, the operational sites within CRC's upstream activities have a Very high physical risk for 7 sites and a high reputational risk for 789 sites.

Spatial Analysis



Scape Physical Risk



Scape Reputational Risk

Number of Sites by Risk Type



WWF Biodiversity Risk
Filter levels

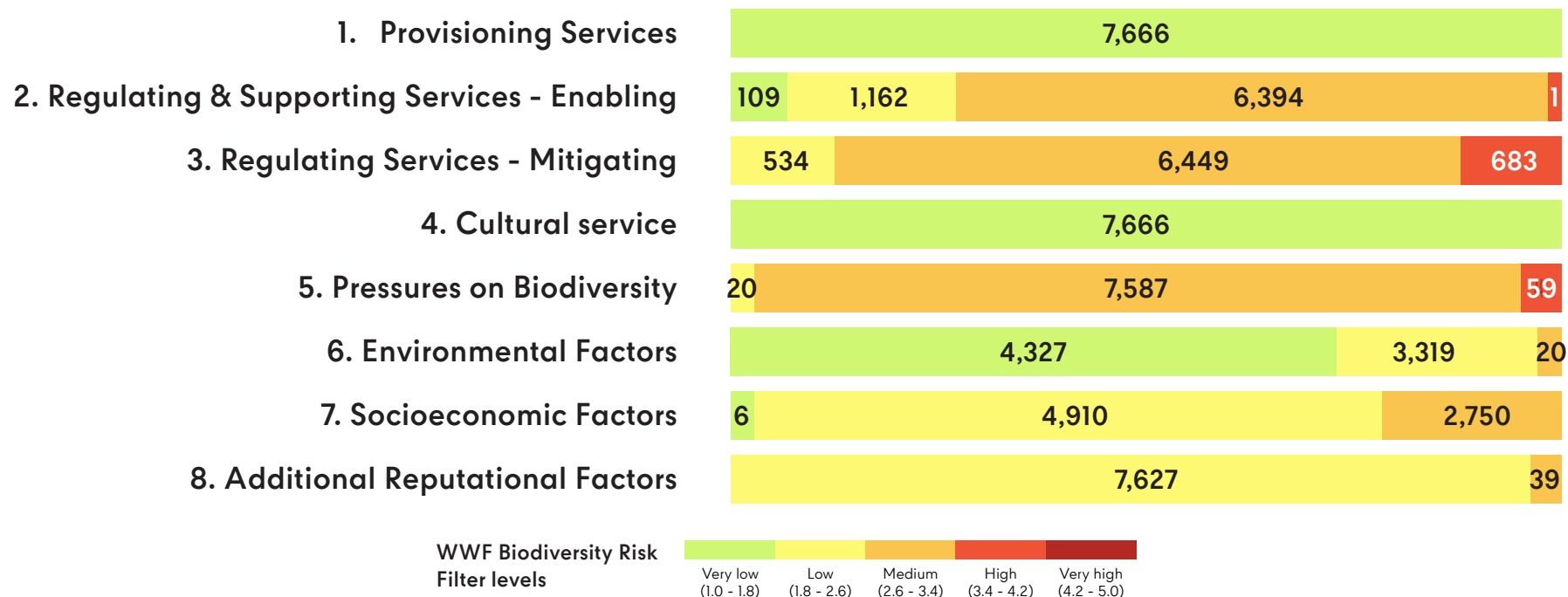




Assessing the Biodiversity Risks

The infographic shows the number of operational sites throughout CRC's upstream activities that have been assessed for biodiversity risk. The summary of the risk types that either half of CRC's sites encountered above medium risk level, or have at least one site assessed as High or Very High levels

Number of Sites by Risk Category



Physical Risk:

2. Regulating & Supporting Services - Enabling

- Background: 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.
- Statistics: 1 high risk site and 6,394 medium risk sites
- Risks: Soil edition, Water edition, Air edition, Ecosystem edition, and Pollination

3. Regulating Services - Mitigating

- Background: The occurrence of natural hazards such as landslides, fires and storms can disturb or disrupt projects, operations, or entire value chains, and in some cases can result in severe damage to loss of assets. Intact ecosystems can help to mitigate the impact of some natural hazards.
- Statistics: 683 high risk site and 6,449 medium risk sites
- Risks: landslides, fire hazards, plant/forest/aquatic pests and diseases, extreme heat, tropical cyclones

5. Pressures on Biodiversity

- Background: Direct drivers or pressures are drivers that unequivocally influence biodiversity and ecosystem processes.
- Statistics : 59 high risk site and 7,587 medium risk sites
- Risks: land, freshwater and sea use change, tree cover loss, invasive species, pollution

Reputational Risk:

6. Environmental Factors

- Background: Reputational risk can be driven by negative impacts on local environmental assets and the local prevalence of biodiversity-related issues.
- Statistics: 20 medium risk sites
- Risks: protected/conserved areas, key biodiversity areas, other important delineated areas, ecosystem condition, range rarity

7. Socioeconomic Factors

- Background: Reputational risk can be driven by negative impacts on local socioeconomic conditions and the local prevalence of socioeconomic issues.
- Statistics : 2,750 medium risk sites
- Risks: Indigenous Peoples, Scarcity, Labor and Human Rights, and Financial Inequality

8. Additional Reputational Factors

- Background: Reputational risk can be driven by the actual or perceived importance or value of ecological assets and socioeconomic conditions and the level of public scrutiny of companies operating in a given geography.
- Statistics : 39 medium risk sites
- Risks: media scrutiny, sites of international interest



Assessing the Biodiversity Risks

Downstream Activities

According to the result of the biodiversity-related risk assessment, most of the operational sites within CRC's downstream activities have medium risk potentials. Concerningly, 9 sites have a medium physical risk, and 9 sites have a low reputational risk.

Spatial Analysis



Scape Physical Risk



Scape Reputational Risk

Number of Sites by Risk Type

Scape Physical Risk	9
Scape Reputational Risk	9

WWF Biodiversity Risk
Filter levels

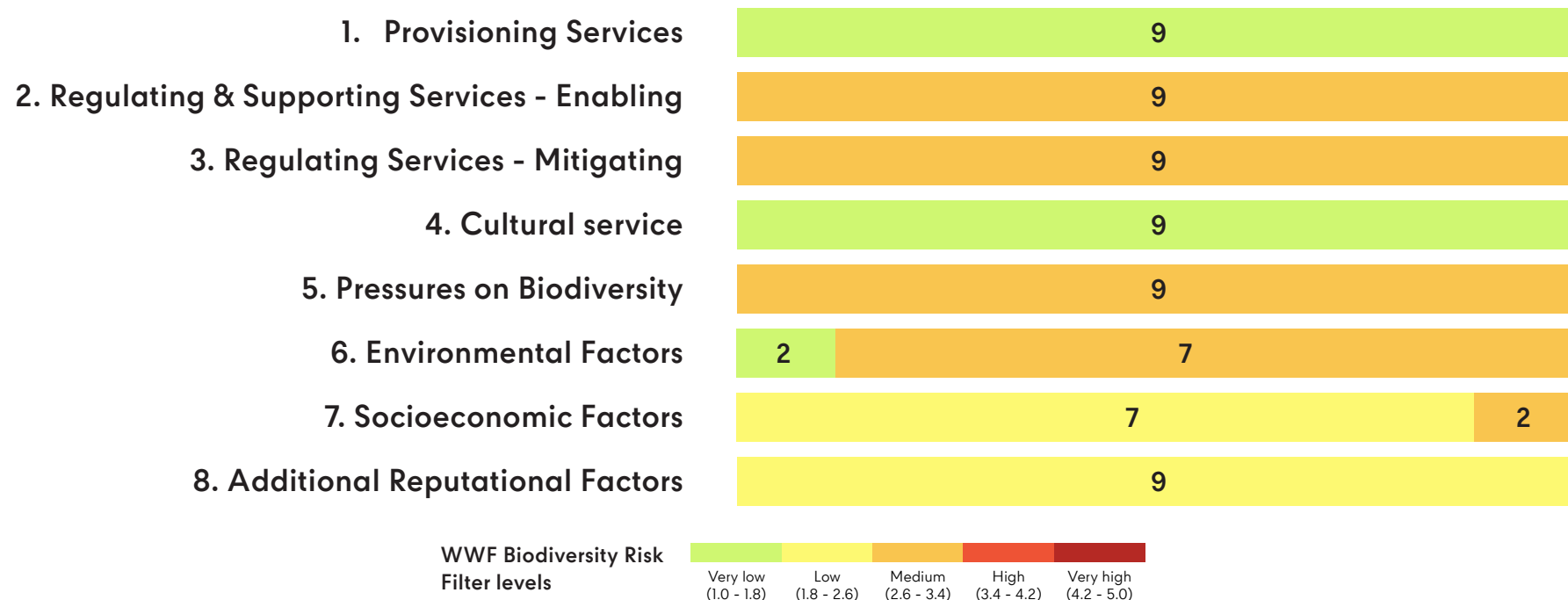




Assessing the Biodiversity Risks

The infographic shows the number of operational sites throughout CRC's downstream activities that have been assessed for biodiversity risk. The summary of the risk types that either half of CRC's sites encountered above medium risk level, or have at least one site assessed as High or Very High levels

Number of Sites by Risk Category



Physical Risk:

2. Regulating & Supporting Services - Enabling

- Background: 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.
- Statistics: 9 medium sites
- Risks: Soil edition, Water edition, Air edition, Ecosystem edition, and Pollination

3. Regulating Services - Mitigating

- Background: The occurrence of natural hazards such as landslides, fires and storms can disturb or disrupt projects, operations, or entire value chains, and in some cases can result in severe damage to loss of assets. Intact ecosystems can help to mitigate the impact of some natural hazards.
- Statistics: 9 medium risk sites
- Risks: landslides, fire hazards, plant/forest/aquatic pests and diseases, extreme heat, tropical cyclones

5. Pressures on Biodiversity

- Background: Direct drivers or pressures are drivers that unequivocally influence biodiversity and ecosystem processes.
- Statistics: 9 medium risk sites
- Risks: land, freshwater and sea use change, tree cover loss, invasive species, pollution

Reputational Risk:

6. Environmental Factors

- Background: Reputational risk can be driven by negative impacts on local environmental assets and the local prevalence of biodiversity-related issues.
- Statistics: 7 medium risk sites
- Risks: protected/conserved areas, key biodiversity areas, other important delineated areas, ecosystem condition, range rarity

7. Socioeconomic Factors

- Background: Reputational risk can be driven by negative impacts on local socioeconomic conditions and the local prevalence of socioeconomic issues.
- Statistics : 2 medium risk sites
- Risks: Indigenous Peoples, Scarcity, Labor and Human Rights, and Financial Inequality

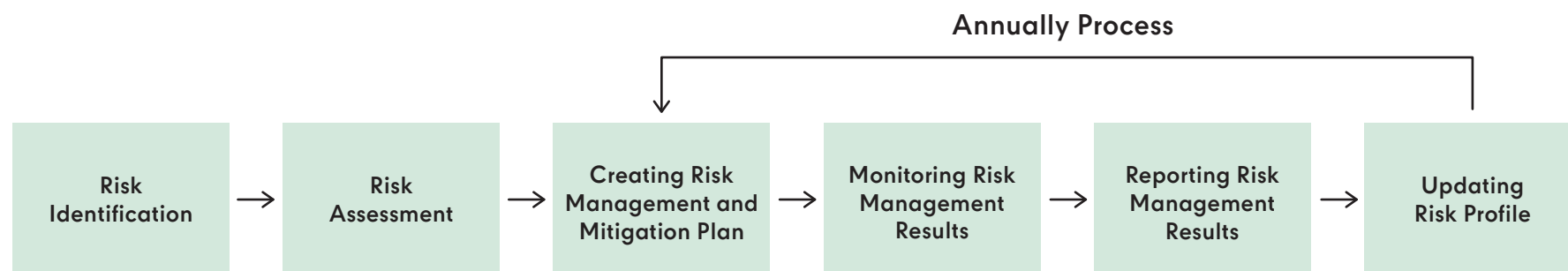


Aggregating Biodiversity Risk to the Company and Portfolio Level

The biodiversity-related risks identified along with other risk indicators such as revenue generation and production capacity, will be integrated into CRC's comprehensive company-wide risk management processes. This integration ensures that all potential risks are considered and enables effective management and control of business operations and value chain, minimizing risks, promoting financial performance, and aligning with the sustainability strategy.



The identified biodiversity-related risks





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