

CENTRALRETAIL





ELEVATION EXCELLENCE

SUSTAINABLE FUTURE

BIODIVERSITY RISK ASSESSMENT



Biodiversity Risk Assessment: Implementation

 <h2>Scoping the Assessment</h2>	<ul style="list-style-type: none">• Identifying industry materiality<ul style="list-style-type: none">• Dependencies• Impacts• Identifying the company's operational sites to be assessed throughout value chain.
 <h2>Collecting Location-specific Company and Supply Chain Data</h2>	<ul style="list-style-type: none">• Specifying site's location• Specifying adjacent area• Specifying industry sector• Identifying business importance of each operational sites
 <h2>Assessing Biodiversity-related Risks</h2>	<ul style="list-style-type: none">• Calculating scape risk (risk score per indicator)• Calculating site-level risk (overall risk score)• Interpreting and evaluating biodiversity risks from the WWF BRF calculation
 <h2>Aggregating Biodiversity Risk to the Company and Portfolio Level</h2>	<ul style="list-style-type: none">• Integrating the identified biodiversity risks into multi-disciplinary company-wide risk management processes

Central Retail Corporation (CRC) incorporated the WWF Biodiversity Risk Filter (WWF BRF) 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 (3,212 site)
Upstream Activities	Thailand (458 site) China (4 site) United Kingdom (2 site) Cambodia (1 site) South Africa (1 site) Malawi (1 site) Norway (1 site)
Downstream Activities	Thailand (918 site)

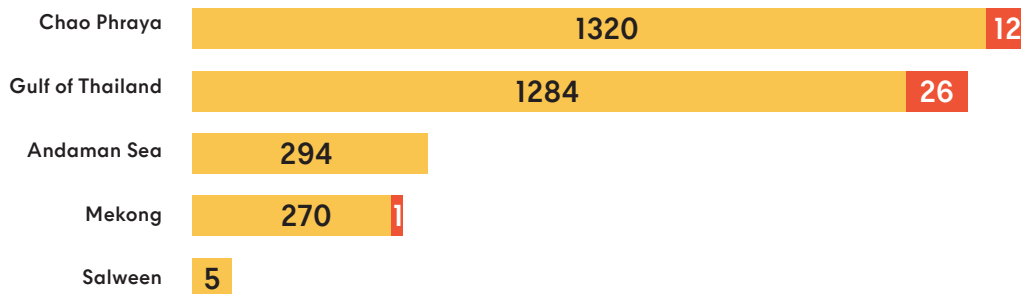


Collecting Location-specific Company and Supply Chain Data

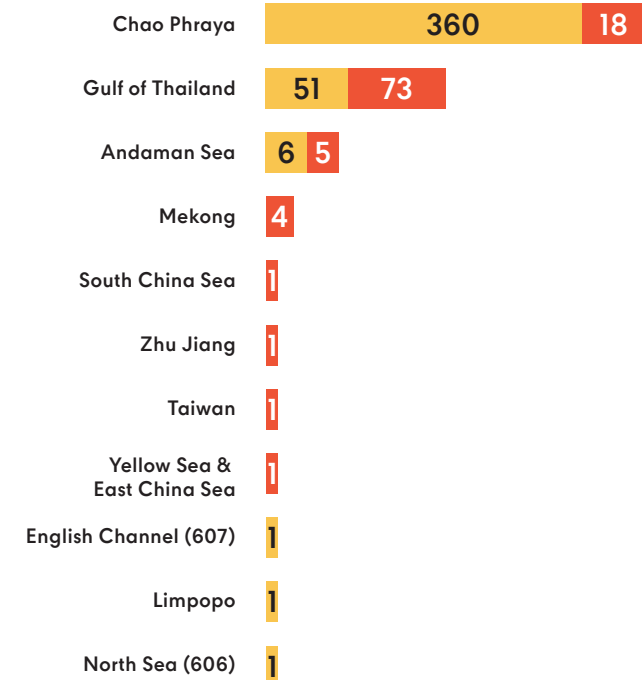
In this step, CRC has identified the geographic location of the assessed site in terms of the coordinates (Latitude/Longitude) on the map, and the industry sector each site corresponds to.

Number of Sites by Land or Seascape

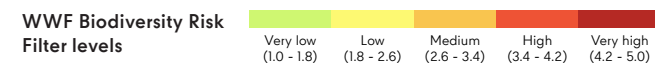
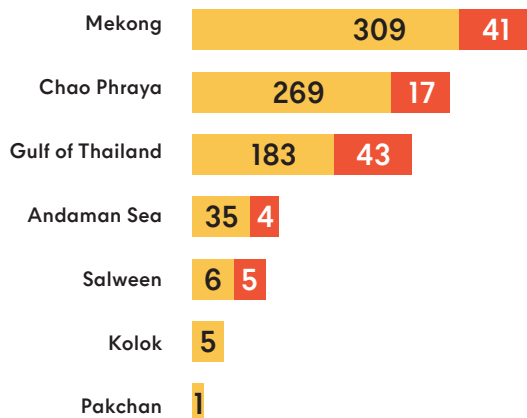
Own operation, Subsidiaries, and Joint Ventures



Upstream Activities



Downstream Activities



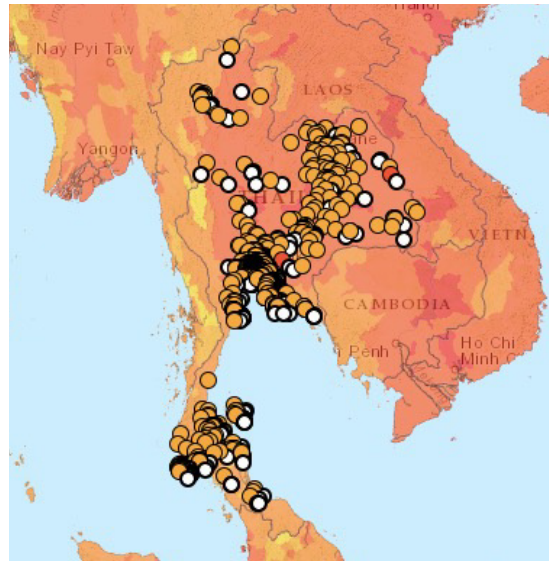


Assessing the Biodiversity Risks

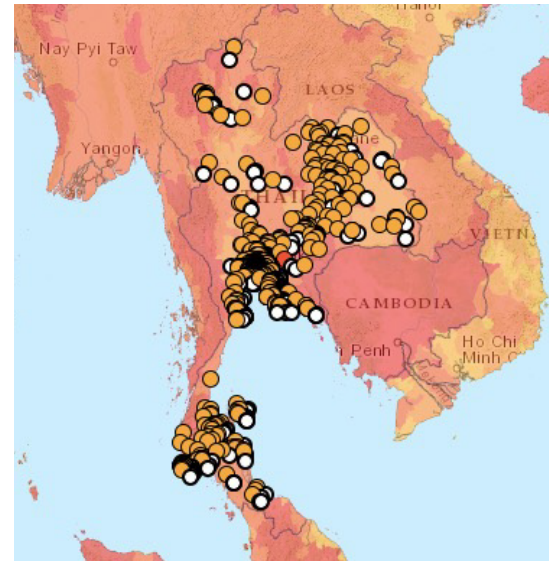
Own operation, Subsidiaries, and Joint Ventures

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, 30 sites have a high physical risk, and 6 sites have a high reputational risk.

Spatial Analysis

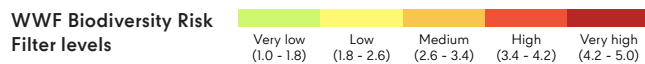


Scape Physical Risk



Scape Reputational Risk

Number of Sites by Risk Type

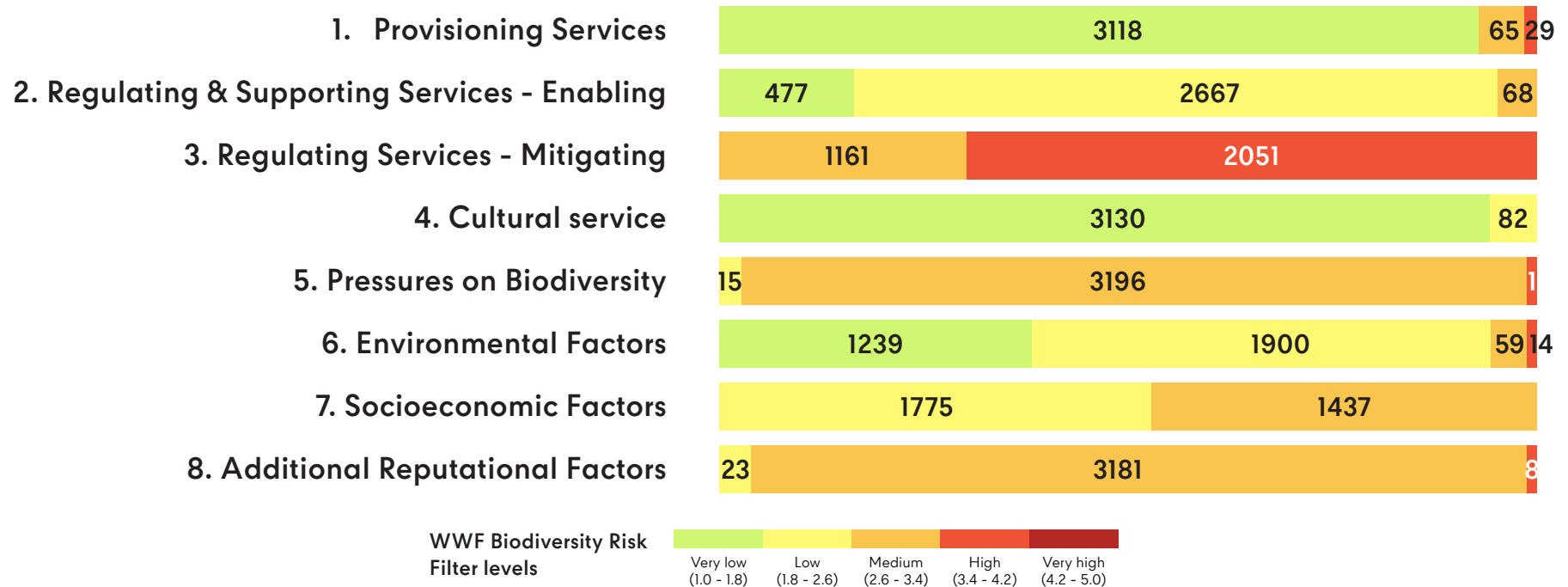




Assessing the Biodiversity Risks

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: 29 high risk and 65 medium risk sites
- Risks: water scarcity, limited wild flora & fauna

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: 2051 high risk and 1161 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: 1 high risk and 3196 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: 14 high risk and 59 medium risk sites
- Risks: protected/conserved areas, key biodiversity areas, other important delineated areas, ecosystem condition, range rarity

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: 8 high risk and 3181 medium risk sites
- Risks: media scrutiny, sites of international interest

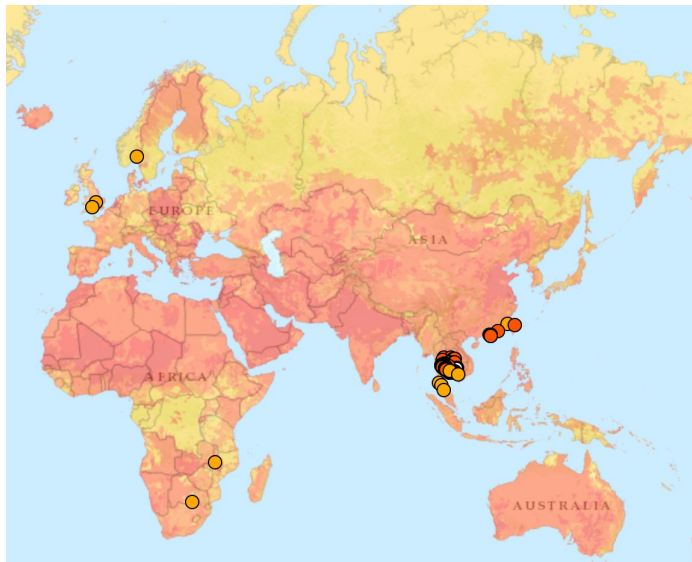


Assessing the Biodiversity Risks

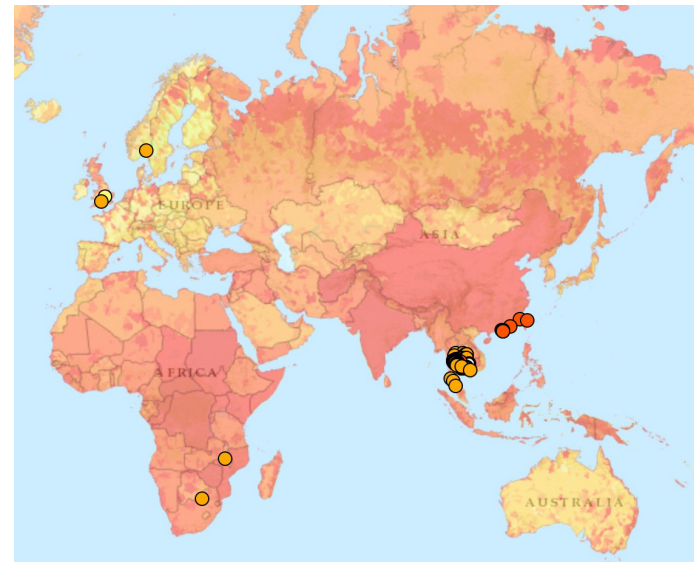
Upstream Activities

According to the result of the biodiversity-related risk assessment, the operational sites within CRC's upstream activities have a high physical risk for 359 sites and a high reputational risk for 14 sites.

Spatial Analysis

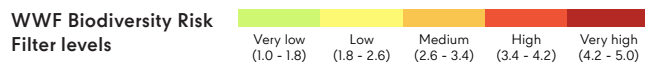


Scape Physical Risk



Scape Reputational Risk

Number of Sites by Risk Type

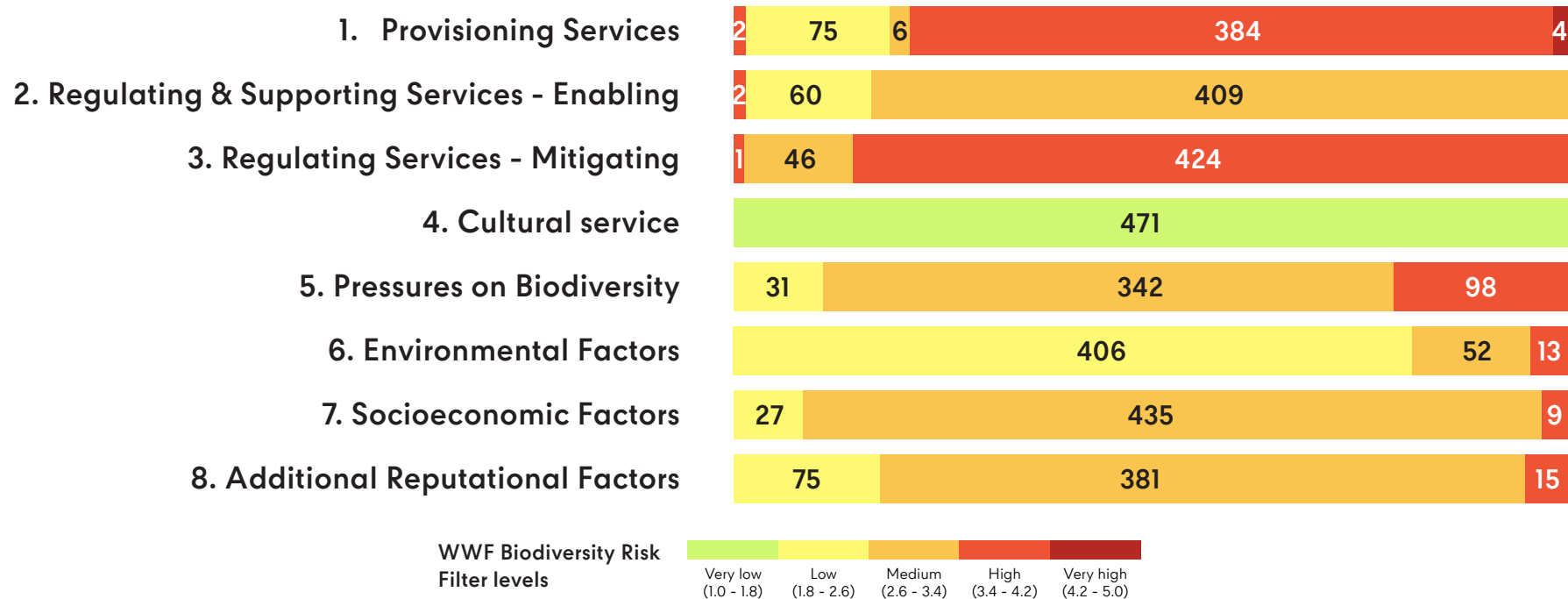




Assessing the Biodiversity Risks

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:

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: 4 very high risk and 384 high 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: 409 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: 424 high risk and 46 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 : 98 high risk and 342 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: 13 high risk, 52 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 : 9 high risk and 435 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 : 15 high risk and 381 medium risk sites
- Risks: media scrutiny, sites of international interest

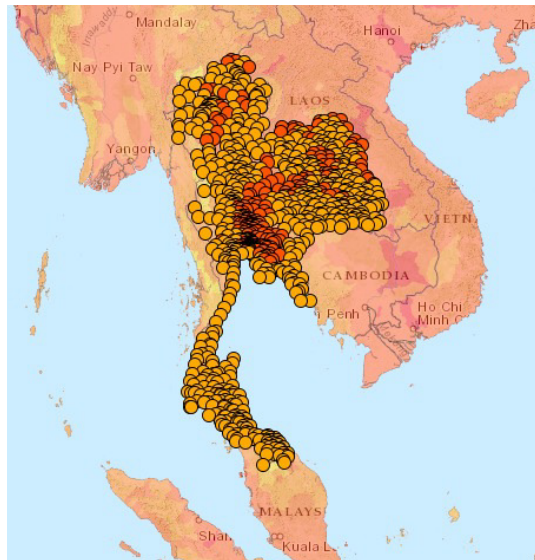


Assessing the Biodiversity Risks

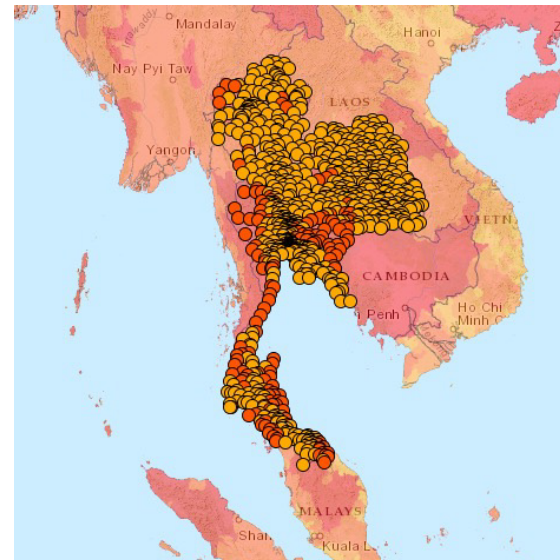
Downstream Activities

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, 216 sites have a high physical risk, and 149 sites have a high reputational risk.

Spatial Analysis

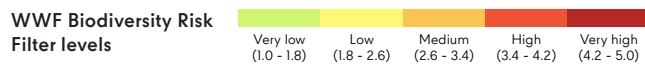


Scape Physical Risk



Scape Reputational Risk

Number of Sites by Risk Type

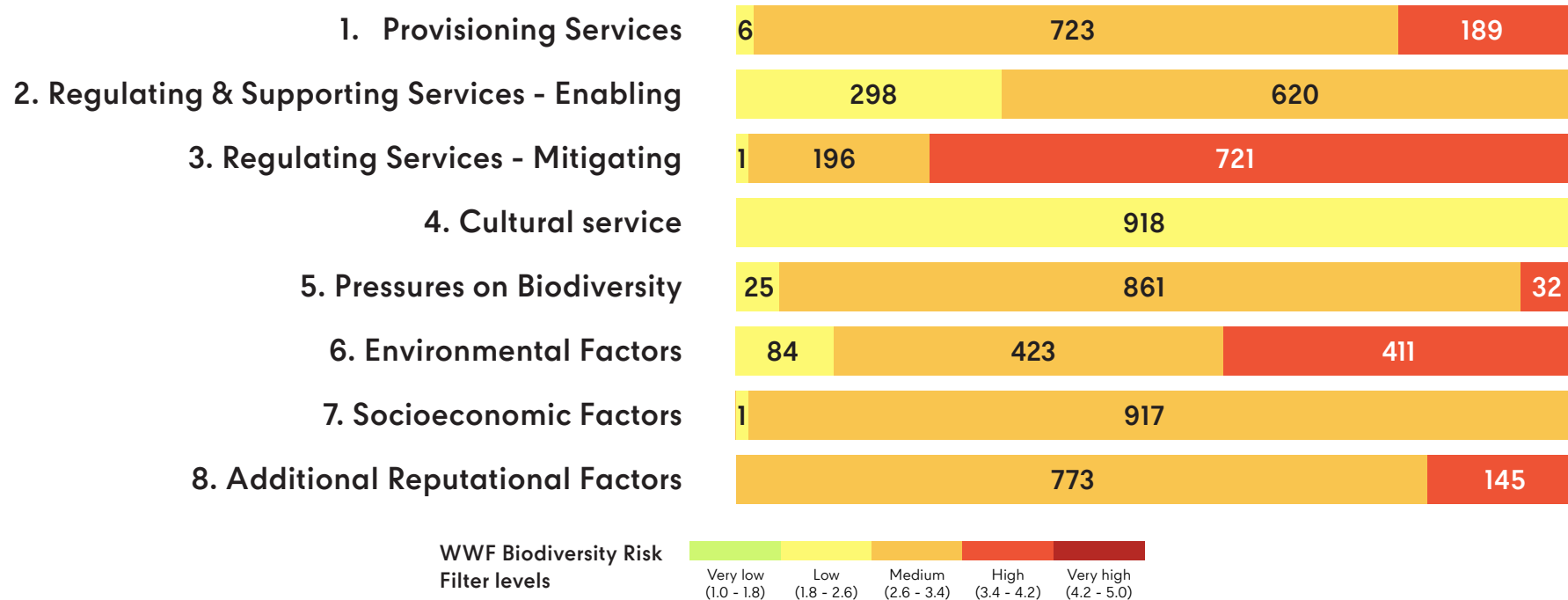




Assessing the Biodiversity Risks

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:

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: 189 high risk and 723 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: 620 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: 721 high risk and 196 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: 32 high risk and 861 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 : 411 high risk and 423 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 : 917 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 : 145 high risk and 773 medium risk sites
- Risks: media scrutiny, sites of international interest

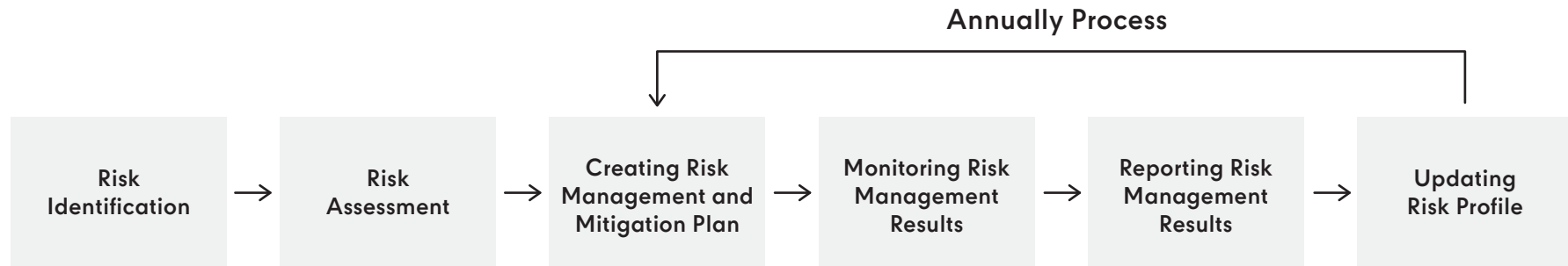


Aggregating Biodiversity Risk to the Company and Portfolio Level

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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