

Sustainability Strategy

Biodiversity 101:
Two things that portfolio managers
should do today



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What is biodiversity?

...and why is it important to money managers?

Biodiversity: the next frontier in sustainable investing

What is biodiversity?

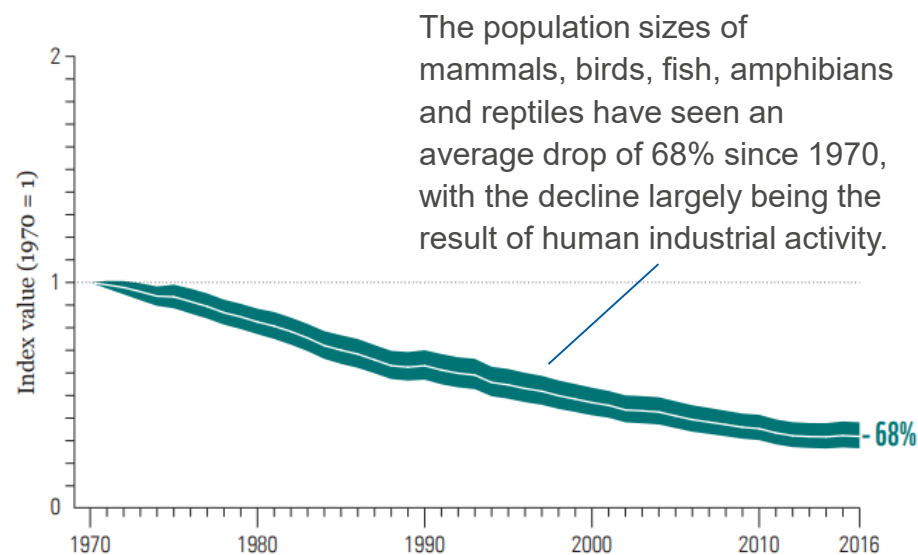
- Biological diversity, or biodiversity, is the infrastructure that supports all life on Earth. It is the sum of all living species, encompassing fauna, flora and the environment they inhabit (WEF, 2018).

Why is it important for money managers?

- Natural capital provides essential resources for industry and agriculture. More than half of global GDP, USD 44 trillion, is highly or moderately dependent on nature and its services (e.g. provision of fibre, fuel and food), with the rapid loss of biodiversity putting this value at risk (WEF, 2020).

→ In this report, we seek to provide 'biodiversity basics' for investors, along with key questions that portfolio managers can ask to determine the financial risk that biodiversity loss could entail for their holdings.

The global living planet index: 1970-2016



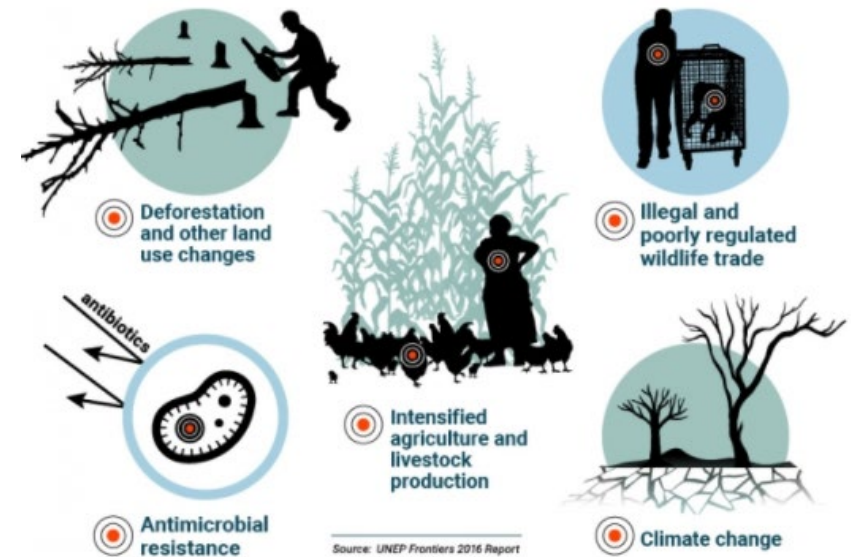
Source: WWF/ZSL (2020)

COVID-19 putting biodiversity in the spotlight

Less species = more diseases?

- Recent studies, such as Gibb et al. (2020), suggest that manmade declines in biodiversity may increase the pool of pathogens that can make the jump from animals to humans.
- While some species are going extinct, those that tend to survive and thrive are more likely to host potentially dangerous pathogens that can make the jump to humans.
- As we diminish biodiversity (e.g. through deforestation), we are increasing the risk of disease outbreaks by creating more frequent contact between humans, wildlife and livestock (Nature, 2020). As demonstrated by the COVID-19 pandemic, the economic consequences can be enormous.

What factors are increasing zoonosis emergence? (Diseases transmitted from animals to humans)



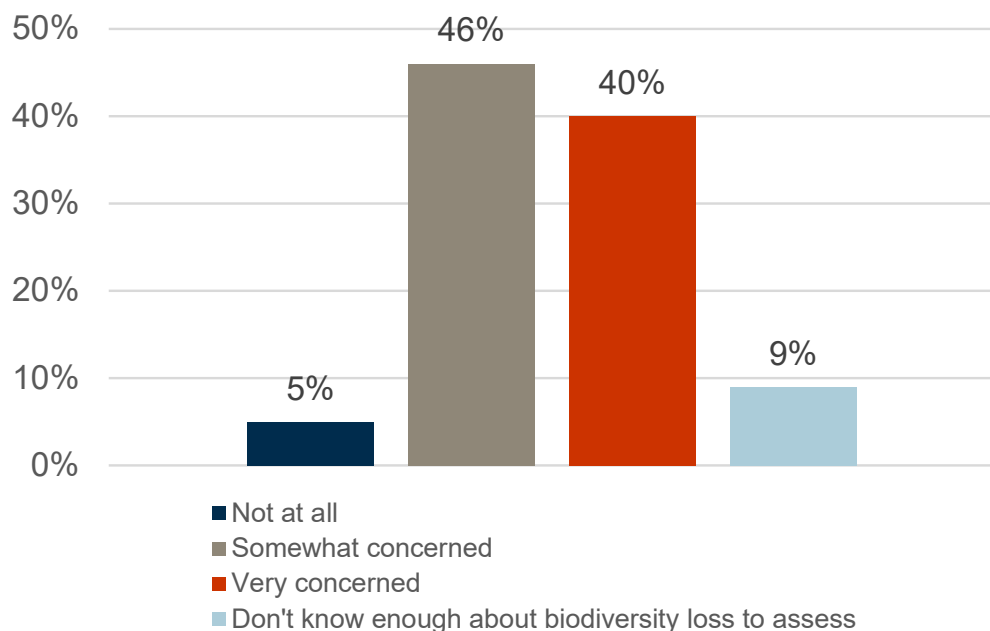
#COVID19

UN
environment
programme

Source: UNEP

Biodiversity climbing on investors' agendas

Respondents' concern about the impact of biodiversity loss on financial markets



Source: Credit Suisse and Responsible Investor, 2021

Note: 303 respondents from 35 countries

- According to a survey (Credit Suisse and Responsible Investor, 2021) of asset owners' and asset managers' views on biodiversity:
 - 86% of respondents are either very or somewhat concerned about the impact of biodiversity loss on financial markets
 - 55% of respondents believe that biodiversity loss needs to be addressed in the next 24 months
- This survey supports our view that **biodiversity risks appear to be overlooked by the market**, as 72% of respondents have not assessed the impact of their investments on biodiversity.
- While still in its infancy, we find that **biodiversity issues could impact companies' valuations** sooner rather than later, e.g. as more than one third of these respondents that have not yet assessed their investments' impact on biodiversity, but aim to do so ahead

A wave of regulation

Biodiversity making its way to financial policy

Biodiversity in financial policy: the EU Taxonomy

- The EU Taxonomy is **the cornerstone of multiple regulations** impacting company reporting, disclosure, bond issuance, labels, engagement rules and benchmarks with respect to sustainability.
- One of the Taxonomy's environmental objectives is focused on biodiversity, thereby **increasing pressure on companies and investors to account for biodiversity**, both in terms of protection (avoid significant harm) and restoration.
- The Taxonomy will likely **standardise what can be considered as an environmentally sustainable 'green' investment in the EU**, setting out criteria for what it takes for an activity to be considered as environmentally sustainable (see next slide).
- With ever-growing funds being directed into ESG investing, we find that this framework could **trigger portfolio rotations** in the coming years.

For more information on the EU Taxonomy, click [here](#).

The Taxonomy regulation establishes six environmental objectives:

1. Climate change mitigation
2. Climate change adaptation
3. The sustainable use and protection of water and marine resources
4. The transition to a circular economy
5. Pollution prevention and control
6. **The protection and restoration of biodiversity and ecosystems**

Increasing review and disclosure requirements on biodiversity for both companies and investors

Biodiversity criteria in the EU Taxonomy

- Taxonomy criteria for a significant contribution to protecting or restoring biodiversity are still under work (to be published 2021-22), but examples of do no significant harm (DNSH) criteria are already present
 - For example, stringent DNSH criteria for hydropower generation, reflecting a stricter relationship with the physical environment broadly (e.g. biodiversity and habitats), could prove a challenge for companies seeking to keep their activities aligned with the EU Taxonomy.

For more information on the draft criteria for hydropower generation, click [here](#).

Taxonomy-alignment formula

✓ We find that Nordic hydropower generation passes the first of two key hurdles for Taxonomy-alignment, namely the need to emit >100 g CO₂/kWh over a lifecycle, as Nordic hydropower today is at ~5 g...



✗ ...while DNSH criteria relating to limiting or avoiding impacts on biodiversity and habitats could prove challenging

Source: TEG, 2020

Regulatory shift apparent in the EU's Green Deal

- The EU's new biodiversity strategy for 2030 includes spending goals for biodiversity, aiming to raise EUR 20bn per year for the plan and 10% of the EU's long-term budget
- Using existing Natura 2000* sites as a base, the new strategy seeks to protect at least 30% of all EU seas (up from the current 11%) and at least 30% of all EU land (up from 26%) by 2030, with areas of high biodiversity or climate value receiving even stricter protection
- Strategy interconnected with other areas, such as the Farm to Fork strategy

The European Green Deal sets out policy initiatives with the overarching aim of making the EU climate-neutral by 2050 – a plan that is now at the core of the EU's recovery strategy



Source: European Commission

*Natura 2000 is a network of nature protection areas in the EU. It is made up of Special Areas of Conservation and Special Protection Areas designated under the Habitats Directive and the Birds Directive.

Biodiversity loss = financial risks

At-risk sectors owing to their impacts or dependence on biodiversity

Biodiversity loss = economic costs

- Given current trends in biodiversity loss, economic costs are expected to continue to rise and, because ecosystems are complex systems with tipping points, potentially increase exponentially (OECD, 2019).
- Between 1997 and 2011, global estimates suggest the world lost USD 4-20 trillion per year in ecosystem services owing to land-cover change (Costanza et al., 2014) and USD 6.3-10.6 trillion per year from land degradation (ELD Initiative, 2015)

Biodiversity and ecosystem service values

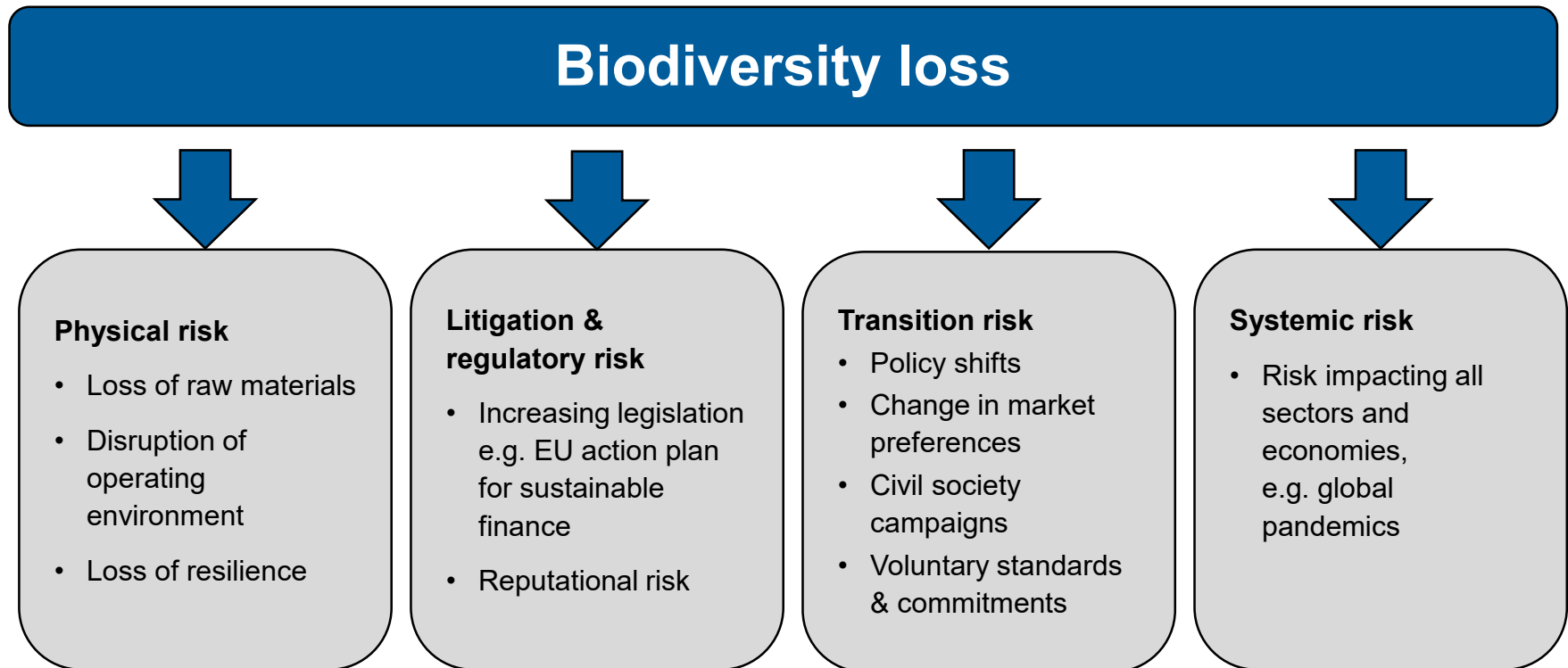
Scale	Good or service	Estimated annual value
Global	Annual market value of animal pollinated crops	USD 235-577bn
Global	First sales value of fisheries and aquaculture	USD 362bn
Global	Coral reef tourism	USD 36bn
Europe	Ecosystem services from Natura 2000 protected area network	EUR 223-314bn
Canada	Value of commercial landing from marine and freshwater fisheries	CAD 3.4bn
Germany	Direct and indirect income from recreational fishing	EUR 6.4bn
Japan	Water purification from tidal flats and marshes	JPY 674bn

Sources: IPBES, 2016; FAO, 2018; Spalding et al., 2017; EU, 2013; Government of Canada, 2018; Schröter-Schlaack et al., 2016; Japan Ministry of Environment, 2014

Biodiversity loss = financial risks

Given the link between biodiversity and GDP, it should come as no surprise that there are related financial risks stemming from biodiversity loss for sectors and individual companies.

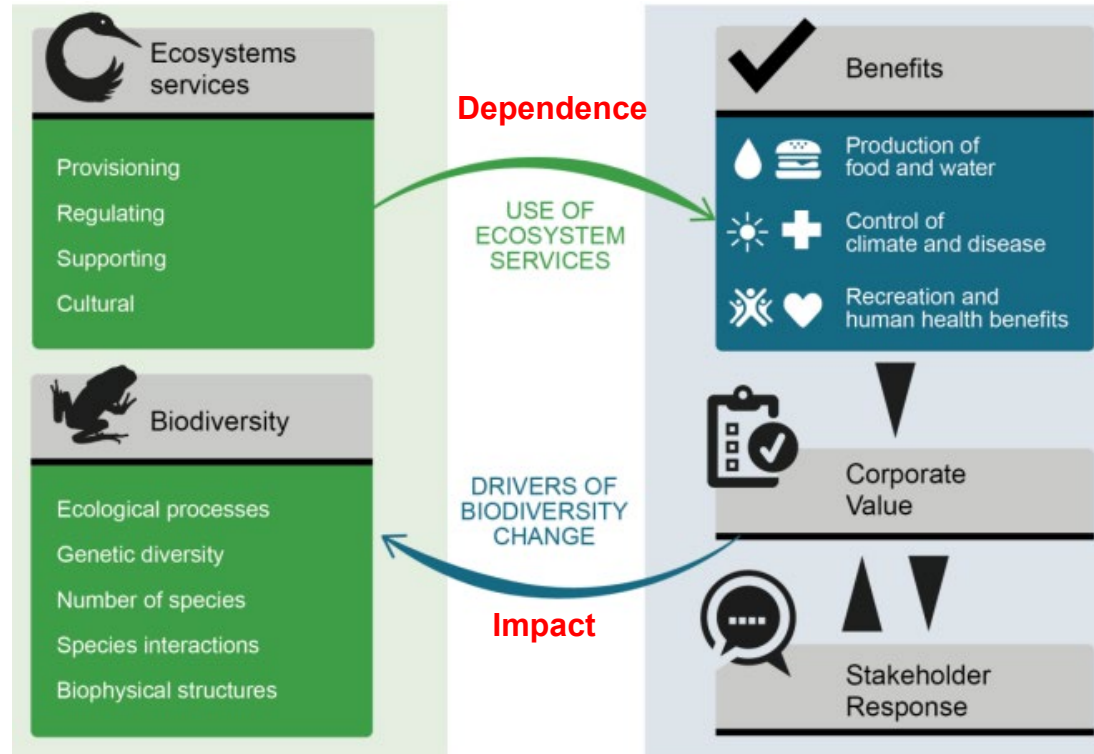
→ In our view, these risks often appear overlooked by the market and are possibly not priced in.



Sources: WEF (2020), UN Environment Programme, UNEP Finance Initiative and Global Canopy (2020)

Biodiversity: impact vs. dependence

Relationship between biodiversity and corporate value



Source: JNCC, 2018 - Adapted from Maes et al., 2013

Impact

- Companies can have adverse **impacts on biodiversity and ecosystem services** through their operations, supply chains and investment decisions.

Dependence

- Companies **depend on biodiversity and ecosystem services** for the production of goods and services.
- Biodiversity loss can have direct implications for business operations and value chains, e.g. by increasing input costs.

Which sectors are at risk?

According to PRI, these are the sectors that have either the highest impact or highest dependence on biodiversity.

Highest impact on biodiversity

- Forest products and fisheries
- Food, beverage and tobacco
- Mining
- Oil & gas
- Transportation

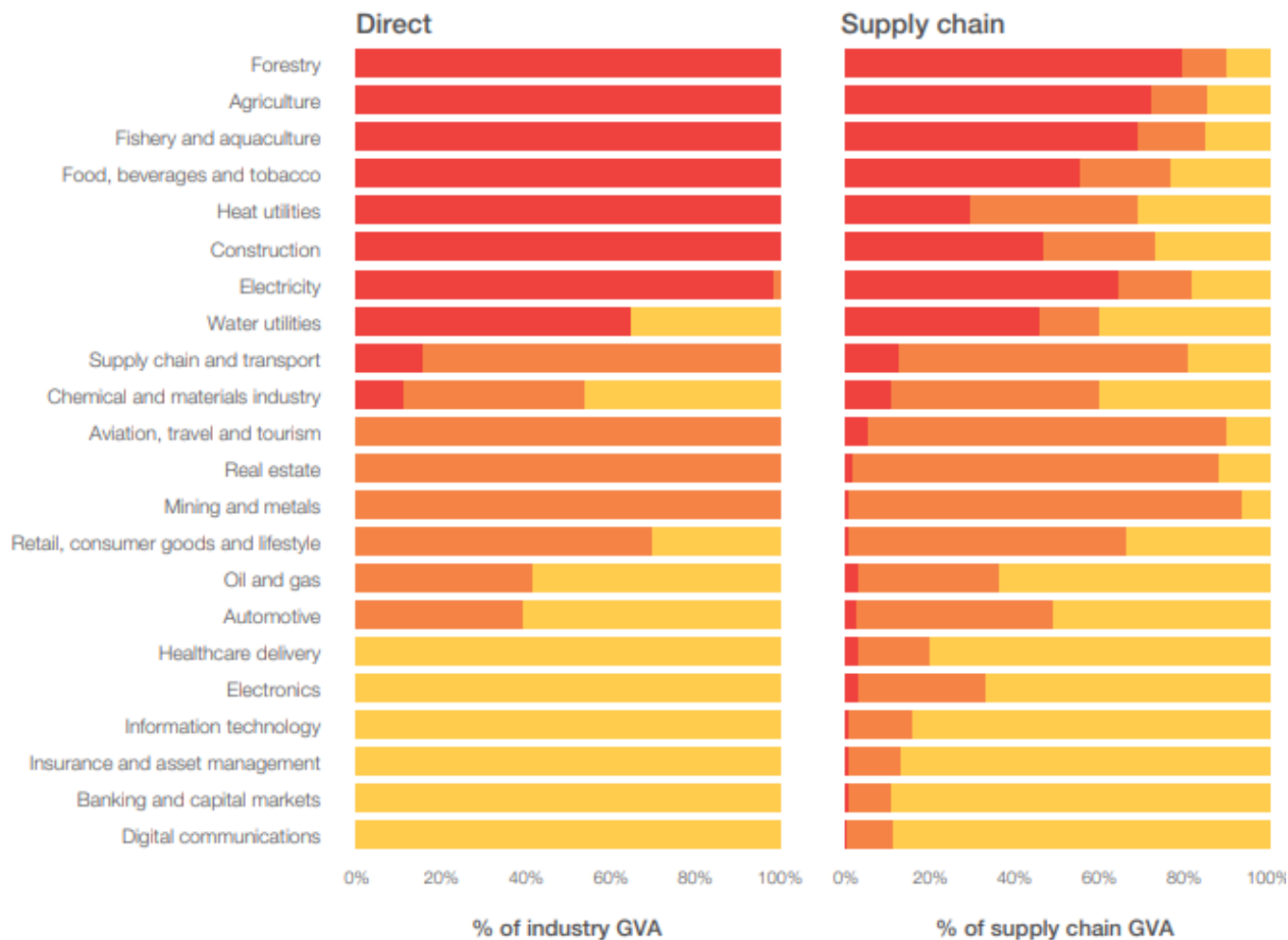
Highest dependence on biodiversity

- Forest products and fisheries
- Textiles, apparel and luxury goods
- Food, beverage and tobacco
- Electric utilities
- Independent power producers

Sources: PRI, IUCN Red List threat data in Maxwell et al (2016) and UN Environment Programme, UNEP Finance Initiative and Global Canopy (2020)

Sector risk: dependence on biodiversity

% of direct and supply chain gross value added (GVA) with high, medium and low dependence on nature, by industry



Sources: PwC, WEF (2020)

Our Nordic universe: Companies with high impacts or dependence on biodiversity

- To simplify, we find that a company's relationship with biodiversity occurs through:
 - their operations' impacts on biodiversity (e.g. land-use changes); and/or
 - their dependence (direct) or their supply chain's (indirect) dependence on biodiversity
- Reviewing our coverage, we argue that some examples of highest impact and/or dependence are:
 - Paper and forestry companies, **such as Holmen, SCA and Stora Enso**, demonstrate a high level of both direct impact and dependence, as well as mining companies such as **Boliden** and fish farmers such as **Lerøy Seafood Group, Bakkafrost** and **SalMar**.
 - Examples of companies with indirect dependence on biodiversity, through their supply chains, are retailers **Axfood** and **ICA**, while companies such as **H&M** and **AAK** demand certain raw materials as inputs, entailing both indirect dependence and indirect impacts on biodiversity.
 - **Only a risk?** While our initial focus has been on the financial risks linked to biodiversity, we note that some sectors have potential to benefit from an increased focus on biodiversity, such as increasing demand for consulting services from **Sweco** and **AFRY**, and that **good management of biodiversity** can make companies more resilient and provide a **competitive advantage**.

Two things that you should do today

Despite a lack of reporting, portfolio managers can start to act

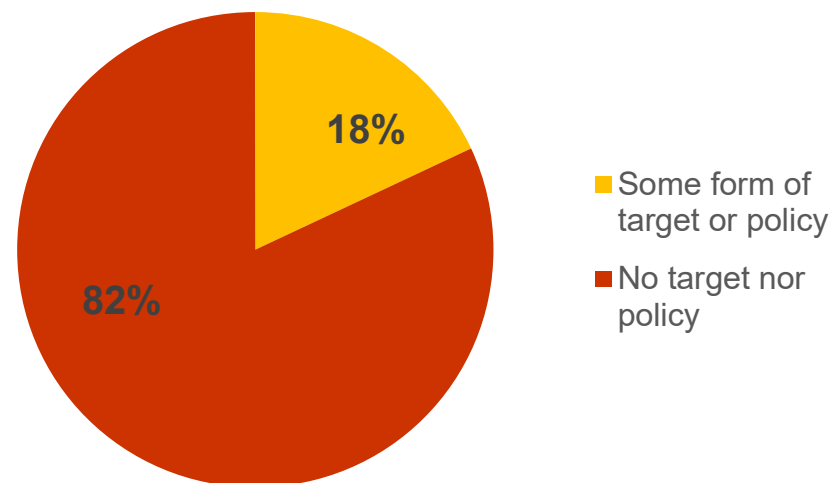
Biodiversity strategy and reporting in the Nordics

- Ecogain's biodiversity index (2020) finds that **biodiversity is still not a prioritised area** among Swedish large caps (or in the Nordics as a whole), although there was a slightly positive trend compared with 2019

- 43% (vs. 42% in 2019) of the 100 largest companies in Sweden mention biodiversity in their reporting
- 18% (vs. 14% in 2019) have some form of policy or target related to biodiversity
- 14% (vs. 8% in 2019) have described some form of KPI or measurement for biodiversity

Ecogain biodiversity index, 2020 evaluation – Sweden's 100 largest companies' status regarding biodiversity

→ 0% rated to have good performance ←



Source: Ecogain

What to do today?

In our view, biodiversity loss presents a risk to investment returns; namely, companies with activities that harm biodiversity will likely face punitive costs, while firms relying on biodiversity (e.g. food, materials and medicines) could see their opportunities diminished.

Even though today's limited reporting and low transparency make it difficult to quantify the risk that biodiversity poses to companies, we argue that there are **two steps that portfolio managers can take now in order to manage their risk, particularly in light of the EU Taxonomy:**

1. A materiality analysis in relation to biodiversity

- Identify whether biodiversity is an important topic for any portfolio holdings, e.g. by reviewing holdings in relation to the at-risk sectors (impact and dependence; see slides 15-16).

2. A structured mapping of holdings' value chains, and their impacts and dependence on biodiversity

- For holdings where biodiversity is identified as material, seek input from the companies about their exposure to and management of these risks throughout their value chains, both in terms of impacts and dependence on biodiversity

Appendix

Biodiversity strategy and reporting in our coverage

Channel checks: Biodiversity strategy and reporting in our coverage

- In a brief review of company reporting on biodiversity in sectors where it is generally considered as material, we find:
 - Positively, several companies have some mention of biodiversity...
 - ...although a few companies make no mention of biodiversity at all
 - A few companies report biodiversity-related KPIs and some form of target
- Companies in sectors with direct impacts and dependence on biodiversity, such as forestry and mining, often have more extensive reporting, which is not surprising, in our view, as they are subject to legal requirements along with NGOs' or other stakeholders' supervision
- The focus is typically on the impacts on biodiversity, but not on how biodiversity loss can affect business (dependence). This is similar to how reporting on climate change started, i.e. often not very transparent, and few explicit links to dependence.

→ Awareness of and commitment to biodiversity action remain limited in general, potentially implying 'hidden' business risks, in our view

Examples of KPIs and targets

Company	Sector (level 3)	Biodiversity-related KPI:s	Biodiversity-related targets
Bonava	Construction	<ul style="list-style-type: none"> - Share of projects w ith significant initiatives aimed at perserving ecological values - Number of protected speices affected 	
Castellum	Real estate	n.m.	"Eco-system services w ill be evaluated for new construction and major projects, and at least as many eco-system services – or more – w ill be recreated on site."
SCA	Paper & Forest Products	<ul style="list-style-type: none"> - Standing volume in ow n forest - Area excluded from timber production for nature conservation - Wood raw material in SCA's products that complies w ith FSC, PEFC or FSC CW 	<p>"SCA's forests are to be at least as rich in biodiversity, nature experiences and raw material in the future as they are today"</p> <p>"All w ood raw material in our products is to be certified according to FSC or PEFC or fulfill the FSC's standard for controlled w ood, FSC CW"</p>
Boliden	Metals & Mining	<ul style="list-style-type: none"> - Operational sites in areas of high biodiversity values - Habitats protected and restored - IUCN Red List species and national conservation List species w ith habitats in areas affected by operations - Amount of land disturbed or rehabilitated 	
Mowi	Food Products	<ul style="list-style-type: none"> - % of sites w ith minimum impact - Number of sites located close to protected areas or highly sensitive areas of biodiversity. - Number of escaped fish and escape incidents 	

Brief overview: Biodiversity strategy and reporting in our coverage

Company	Sector level 2	Sector level 3	Biodiversity policy/reporting
Aker BP	Energy	Oil & Gas	Some mention of impact on biodiversity on webpage
Equinor	Energy	Oil & Gas	Strategy and KPIs reported
Lundin Energy	Energy	Oil & Gas	Strategy and commitments reported
Neste	Energy	Oil & Gas	Strategy reported, and KPIs under development

Company	Sector level 2	Sector level 3	Biodiversity policy/reporting
Bakkafrost	Food, Beverage & Tobacco	Food Products	Strategy and KPIs reported
Grieg Seafood	Food, Beverage & Tobacco	Food Products	Strategy and KPIs reported
Leroy Seafood Group	Food, Beverage & Tobacco	Food Products	Some mention on website
Mowi	Food, Beverage & Tobacco	Food Products	Strategy and KPIs reported
Norway Royal Salmon	Food, Beverage & Tobacco	Food Products	Some mention in sustainable sourcing
Orkla	Food, Beverage & Tobacco	Food Products	Some mention in sustainable sourcing
SalMar	Food, Beverage & Tobacco	Food Products	Limited mentioning

Company	Sector level 2	Sector level 3	Biodiversity policy/reporting
Boliden	Materials	Metals & Mining	Strategy and KPIs reported
Norsk Hydro	Materials	Metals & Mining	Strategy and KPIs reported
SSAB	Materials	Metals & Mining	n.m.

Company	Sector level 2	Sector level 3	Biodiversity policy/reporting
Europris	Retailing	n.m	n.m.
Fenix Outdoor	Retailing	Specialty Retail	Some mention in sustainable sourcing
Hennes & Mauritz	Retailing	Specialty Retail	Strategy and two objectives communicated
Kesko	Retailing	Multiline Retail	Have one biodiversity KPI
Stockmann	Retailing	Multiline Retail	Defines biodiversity as non-material

Brief overview: Biodiversity strategy and reporting in our coverage

Company	Sector level 2	Sector level 3	Biodiversity policy/reporting
Essity	Household & Personal Products	n.m	Some mention in sustainable sourcing
Ahlstrom-Munksjö	Materials	Paper & Forest Products	Some mention of business impact on biodiversity
BillerudKorsnäs	Materials	Paper & Forest Products	Have one biodiversity KPI
Holmen	Materials	Paper & Forest Products	Strategy and KPIs reported
Metsä Board	Materials	Paper & Forest Products	Some mention in sustainable sourcing
SCA	Materials	Paper & Forest Products	Strategy and KPIs reported
Stora Enso	Materials	Paper & Forest Products	Strategy and KPIs reported
UPM-Kymmene	Materials	Paper & Forest Products	Strategy and KPIs reported
Company	Sector level 2	Sector level 3	Biodiversity policy/reporting
A.P. Møller-Mærsk	Transportation	Marine	n.m
DSV Panalpina	Transportation	n.m	n.m.
Fortum	Utilities	Electric Utilities	Strategy and KPIs reported
Skistar	Hotels, restaurants & leisure	Hotels, restaurants & leisure	Strategy reported, some projects postponed
Company	Sector level 2	Sector level 3	Biodiversity policy/reporting
Axfood	Food & Drug Retailing	Food & Drug Retailing	Some mention of biodiversity on webpage
ICA Gruppen	Food & Drug Retailing	Food & Drug Retailing	Some mention on website
AAK	Food, Beverage & Tobacco	Food Products	Some mention in sustainable sourcing
Carlsberg	Food, Beverage & Tobacco	Beverages	Limited mentioning in environmental policy
Chr. Hansen	Food, Beverage & Tobacco	Food Products	Some mention in annual reporting
Cloetta	Food, Beverage & Tobacco	Food Products	Some mention in annual reporting
Royal Unibrew	Food, Beverage & Tobacco	Beverages	n.m.
Duni	Food, Beverage & Tobacco	n.m	n.m.
Huhtamaki	Food, Beverage & Tobacco	Food Products	Some mention in sustainable sourcing
Scandinavian Tobacco Group	Food, Beverage & Tobacco	n.m	n.m.
Swedish Match	Food, Beverage & Tobacco	Tobacco	n.m.

Brief overview: Biodiversity strategy and reporting in our coverage

Company	Sector level 2	Sector level 3	Biodiversity policy/reporting
AF Gruppen	Capital Goods	Construction & Engineering	n.m.
Bonava	Capital Goods	Construction & Engineering	Strategy and KPIs reported
JM	Capital Goods	Construction & Engineering	n.m.
Lehto Group	Capital Goods	Construction & Engineering	Some mention in annual reporting
NCC	Capital Goods	Construction & Engineering	Some mention in annual reporting and w ebsite
Peab	Capital Goods	Construction & Engineering	n.m.
Skanska	Capital Goods	Construction & Engineering	Some mention on w ebsite
Veidekke	Capital Goods	Construction & Engineering	Some mention in annual reporting
YIT	Capital Goods	Construction & Engineering	Some mention on w ebsite

Company	Sector level 2	Sector level 3	Biodiversity policy/reporting
Adapteo	Real Estate	Real Estate	Some mention in annual reporting
Atrium Ljungberg	Real Estate	Real Estate	Some mention in annual reporting and w ebsite
Balder	Real Estate	n.m.	n.m.
Castellum	Real Estate	Real Estate	Some mention in annual reporting, and one eco-system related target
Diös	Real Estate	Real Estate	Some mention in environmental policy
Entra	Real Estate	Real Estate	n.m.
Fabege	Real Estate	Real Estate	Some mention in annual reporting
Hufvudstaden	Real Estate	Real Estate	Some mention in annual reporting
John Mattson Fastighets AB	Real Estate	n.m.	n.m.
Klövern	Real Estate	Real Estate	Some mention in annual reporting
Kungsleden	Real Estate	Real Estate	Some mention on w ebsite
Platzer	Real Estate	Real Estate	n.m.
Trianon	Real Estate	Real Estate	Some mention in sustainability bond framew ork
Wallenstam	Real Estate	Real Estate	n.m.
Wihlborgs	Real Estate	Real Estate	Efforts on improving biodiversity reported

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