

Corporate Biodiversity Footprint

Developed by Iceberg Data Lab (IDL)

A Sectoral Approach

The intensity of environmental pressures on biodiversity is sector specific. For each economic sector, the main drivers of biodiversity loss are selected based on available scientific literature. The most important pressures on biodiversity included in the Corporate Biodiversity Footprint’s scope are the Change of Land Use, Climate change, Nitrogen deposition and the Release of Toxic Waste compounds into Freshwater.

Using pressure-impact relationship functions, those pressures are converted into the metric $\text{km}^2.\text{MSA}$ which measures the overall biodiversity impact of an issuer.

We calculate a company’s direct biodiversity impact (Scope 1), the impact of its electricity suppliers (scope 2) and its upstream and downstream impacts (Scope 3), adopting the taxonomy of the GHG protocol.

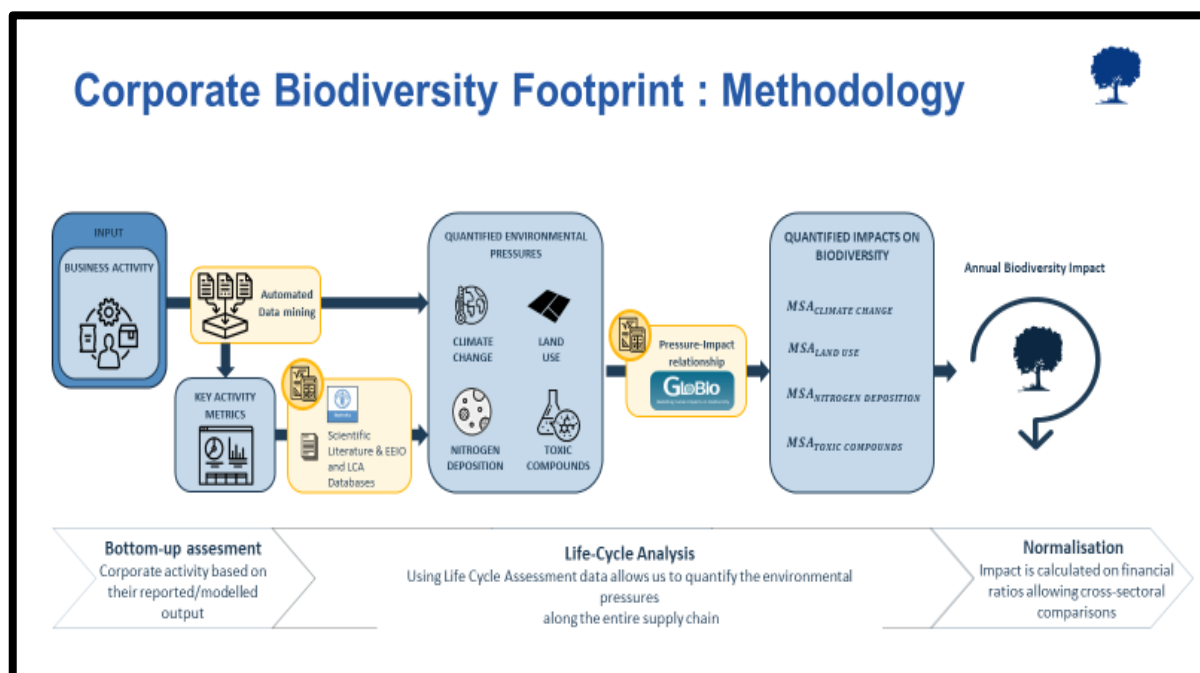
The Mean Species Abundance

The Mean Species Abundance (MSA) is a biodiversity metric which expresses the mean abundance of original species in a habitat compared to their abundance in an undisturbed habitat, measuring to which extent an ecosystem is intact. The MSA is endorsed by the international scientific community, used by the IPBES and the IPPC in their reports and one of the most widely used indicators in biodiversity accounting. The km^2 MSA enables to aggregate footprinting results. For instance, 1 km^2 MSA corresponds to the value of biodiversity contained in 1 km^2 of tropical forests undisturbed by human activities.

Overview of the Corporate Biodiversity Footprint

The calculation of IDL’s Corporate Biodiversity Footprint (CBF) follows three successive steps:

- (1) the company’s financial and operational metrics are collected;
- (2) the company’s metrics are used to estimate its specific environmental pressures (GHG and NOx emissions, surface of land use, volumes of toxic compounds released);
- (3) The pressures are eventually converted into impact and converted in the $\text{km}^2.\text{MSA}$ unit.
 The impact from all pressures is then computed into the overall Corporate Biodiversity Footprint.



To date, the methodology takes into account four different biodiversity pressures:

1. **Land use change**
Land use and land cover change is seen by leading scientists as the first driver of global biodiversity loss. We assess land occupation (maintaining land in an disturbed state) and land transformation (converting undisturbed land).
2. **Air pollution**
We consider NOx emissions, which lead to eutrophication and acidification of soils. Acidification and eutrophication disturb the living conditions of flora and fauna, leading to changing ecosystems.
3. **Climate Change**
A lot of species are highly sensitive to change of temperature. Due to the pace of the ongoing climate change, species will not be capable of adapting and are at risk of disappearance.
4. **Ecotoxicity**
Certain pollutants are especially hazardous to water and species living in freshwater. Pollutants can either be directly toxic to species or bioaccumulate in aquatic organisms and therefore possibly affect regeneration.

A calculation of the impact throughout the value chain

IDL estimates the biodiversity impact of the corporates throughout their value chain (Scope 1, 2, 3 upstream and downstream) factoring the impact of a company's supply chain (material in the Agri-Food sector for instance) and of its products (material for car manufacturers for instance). Life-cycle analysis reference emission factors are used in the CBF computation.

The assessment incorporates data reported by the company. A Disclosure Quality Level indicator is attached to each data point and shows in a transparent manner the uncertainty level relative to each data point. The corporate data collected and used come from public sources, like their annual or sustainability reports.

An approach applicable to all asset classes

The underlying environmental impact of a company's product or processes is calculated. Our model then allocates this environmental impact to the capital provided, which allows to model the impact of every kind of asset and to compute the overall impact at portfolio level for a multi-asset investor.

Iceberg Data Lab Research team compiles a database comprised of several thousand issuers, indexed by broadly available unique ID or by their listed financial instruments (stocks, bonds).

A comprehensive quality review assesses the company's results along the "4-eyes" principle and an internal quality indicator monitors the evolution of the quality of our dataset.

More information on the measurement approach can be found here: contact@icebergdatalab.com