

Q&A: New tool supports private industry in minimizing impacts to nature's services

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Mines are one example of a physical asset whose "footprint" can be assessed with this tool. Credit: Pixabay/CC0 Public Domain

Companies and investors are increasingly considering, and measuring, the impacts of their business activities on nature, or "natural capital" (the

world's stock of natural assets like air, water, soil, and biodiversity). This includes how impacts to ecosystem services, the benefits nature provides to people, create risks—and opportunities—for their businesses and clients.

Recently, the Taskforce on Nature-Related Financial Disclosures (TNFD) released its final [risk management and disclosure framework](#) for companies and financial institutions. These recommendations are intended to inform better decision-making by companies and investors, to "ultimately contribute to a shift in global financial flows toward nature-positive outcomes."

As part of this growing effort to support the integration of [natural capital](#) information into private sector decision-making, the Stanford-based Natural Capital Project collaborated with Morgan Stanley's Institute for Sustainable Investing to develop a new, open-source ecosystem services footprinting tool.

TNFD is providing a [NatCap case study](#) about this footprinting tool as additional guidance on how to assess nature-related impacts and dependencies (i.e., the ways a business's operations may depend on nature's services). The tool can be [downloaded for free here](#).

Below, Lisa Mandle and Matthew Slovik discuss this new tool, how they hope it will contribute to connecting the finance sector with decision-relevant natural capital information, and more. Mandle is Director of Science-Software Integration and a Lead Scientist at the Natural Capital Project. Slovik is Managing Director and Head of Global Sustainable Finance at Morgan Stanley.

How did this collaboration come about?

Slovik: Natural capital analytics for company-level decision-making are

very nascent, and yet they're so key to growth. We wanted to use our knowledge of finance and ESG [environmental, social, and governance] data more broadly to help build the field and the industry's capabilities. We have followed and been really really impressed with the team at Stanford and the broader NatCap project, and all that they built with the InVEST platform, and were excited to think about how we could partner and develop next-level natural capital analytics. With valuable data from S&P Global and Planet, I think we've done that.

Mandle: From some initial discussions with the Morgan Stanley team at a workshop convened by Planet and The Rockefeller Foundation, we quickly saw the [potential benefits](#) of bringing our different sets of knowledge and data together. We saw an opportunity to make an explicit link between how nature provides benefits to people and how that might be impacted by private industry.

What does this tool allow companies and others to do?

Mandle: Let's say a company is looking at developing a new facility somewhere, or an investor is considering investing in a certain kind of activity and has a choice between locations. They can use this to compare impacts to certain ecosystem services—the services provided by nature to people—across those locations, specifically impacts to water quality from loss of natural ecosystems, to people's ability to access and enjoy nature, and exposure to coastal flooding and erosion.

We looked, for example, at lithium mines, which are key to the renewable energy transition: we can use [satellite imagery](#) to look at their footprint—how much space they are taking up—and the geography of where it's located to assess its consequences. This could help determine where this resource could be obtained for the lowest environmental—and human—impact.

Why might companies, investors, and others want to use this footprinting tool?

Slovik: Natural capital is a relatively new field as it relates to finance, but we believe it will be increasingly relevant to our clients. Investors are becoming more interested in using data to make informed decisions about natural capital and [ecosystem services](#) impacts, and we hope this tool can now support the market in that regard.

Mandle: There's a push and pull to adopt these approaches from a variety of directions. The European Union in particular has been moving forward with regulations that would require disclosure of environmental impacts in new ways. Some of it is consumer demand for ethical investments. And many companies don't want to be bad actors by creating environmental impacts that might harm local communities.

What impact do you hope this will have?

Slovik: We are hoping this open-source tool will help expand access to natural capital analytics, better connect finance and financial valuations to nature, and support the market through increased innovation.

Mandle: There have been criticisms of ESG because where companies' metrics come from can be a bit of a black box. This tool can help with some of that reporting in a way that is very open and science-based, including for those following the TNFD framework. Our hope is that it can make the kind of information NatCap has been producing more accessible in a new way to the private sector and to [decision-makers](#) who maybe aren't used to looking at maps, and don't have the capacity on their teams to be running InVEST models. This data can be easily accessed and fed into their processes. Also, it is not limited to companies, we've made it free and [open-source](#) so anyone can use it.

What's on the horizon for this line of work?

Mandle: This tool focuses on the direct impact from a mine, building, etc., that leads to removal of vegetation. But there's also a lot of value to get beyond this to look at impacts across the supply chain. The impact of a factory isn't just from that building, but from other activities connected to it.

Slovik: As Lisa said, this is one piece of the puzzle, one way to measure companies' impacts on natural capital. But it also fits into a broader landscape, and so we are also working on other complimentary ways of monitoring and quantifying biodiversity impacts, like impacts of products and services, and proximity to sensitive areas, which we hope will support our clients and market participants in evolving their capabilities and approach to natural capital.

Provided by Stanford University

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