BIODIVERSITY: A STEP BACK TO LOOK AT (AND ACT ON) THE BIG PICTURE: THE CASE OF MCDONALD'S

Since the start of Ossiam's research program on biodiversity in 2018, we have chosen to focus our efforts on the food sector, a significant contributor to biodiversity loss. This article goes back to the initial motivations and reasonings behind our investment thesis and philosophy to address biodiversity loss, and their consequences in terms of investment choices.

"Not everything needs to sound so clever, or charming, or likable all the time. Sometimes we need to just be able to say things to one another. We need to hear things."

LEONARDO DICAPRIO AS
DR. RANDALL MINDY
DON'T LOOK UP (2021)

The current deterioration of biodiversity is unfortunately known as the 'sixth mass extinction' according to research from the journal Proceedings of the National Academy of Sciences [1] stating that the "biological annihilation" represents a "frightening assault on the foundations of human civilization". This alarming statement can be illustrated with figures: while wildlife populations have plummeted by close to 70% since 1970, according to the latest WWF report [2], the World Economic Forum estimates that over half of global gross domestic product is "moderately or highly dependent" on nature [3]. Many of the drivers of biodiversity loss are, directly or indirectly, imputable to human activities. It should be reminded that biodiversity and climate change are intertwined through mechanistic links and feedbacks. The rise of temperature from greenhouse gases (GHGs) emissions exacerbates risks to species natural habitats, while at the same time, ecosystems play a key role in climate change mitigation and adaptation from the absorption of GHG emissions. Above all human activities, the main contributor to biodiversity loss is related to food production and consumption, notably including land use and sea exploitation, as well as direct exploitation of living organisms. These two combined explain close to 50% of the global declines in nature [4]. Most of the discussions during the UN Biodiversity Conference (COP 15) held in December 2022 were in fact centered around the agricultural and food sector and led to 23 clear targets to protect biodiversity to be reached by 2030 [5].

At the time of this writing, the food industry remains unsustainable, and will probably remain so in the near future. Areas used for agriculture represent 38% of the global land surface (out of which 77% is used for livestock), and 90% of deforestation is linked to agricultural expansion [6]. Food production accounts for a quarter of global GHGs emissions [7], with more than half (14.5%) being directly attributable to livestock farming [8]. At the same time, according to the WWF, the world's 7.3 billion people consume 1.6 times what the earth's natural resources can supply, while the global population is expected to reach 9 billion by 2050, which would lead the global demand for food [9] to double.

[1] https://www.pnas.org/doi/full/10.1073/pnas.1704949114
[2] https://www.worldwildlife.org/press-releases/69-average-decline-in-wildlife-populations-since-1970-says-new-wwf-report
[3] https://www3.weforum.org/docs/WEF_New_Nature_Economy_Report_2020.pdf
[4] https://www.ipbes.net/news/Media-Release-Global-Assessment
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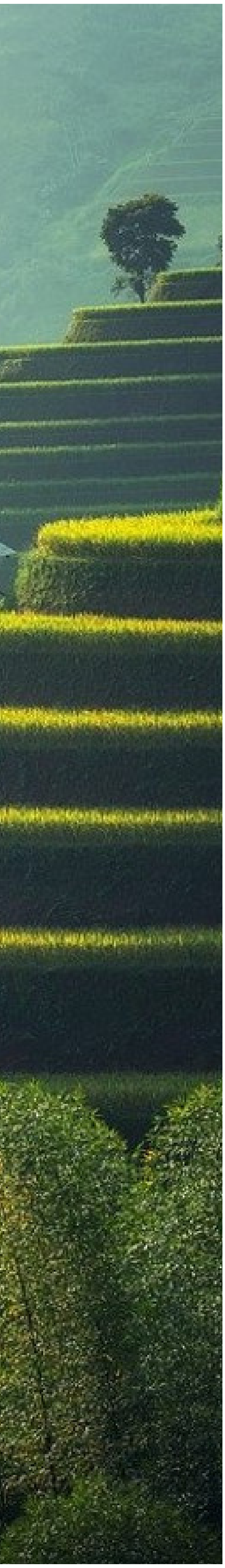
[7] https://www.science.org/doi/10.1126/science.aaq0216
[8] https://www.fao.org/news/story/en/item/197623/icode/
[9] https://www.worldwildlife.org/initiatives/food



On top of this, as economic growth lifts people in the middle class in developing countries, we can expect to see their diets to change and become richer in animal proteins, adding more pressure on nature. Steering the global food industry towards a sustainable path is therefore a twofold challenge: reducing its impact on biodiversity while producing enough food to supply the needs of the global population. Organic food, while healthy, may not therefore be sufficient to address this issue.

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With this global picture in the background and the challenge of balancing the need for secure and quality food supplies and biodiversity preservation, there are several tangible approaches for investors to preserve biodiversity through the transformation of the agri-food sector.

One side of the spectrum is linked to innovation and the development of new technologies to improve the environmental intensity of produced goods. For example, meat substitutes already exist, with plant-based products representing c. 99% of today’s meat alternatives [10]. Other promising innovations are being considered and validated by some local authorities. For example, cultured meat, which consists in extracting cells from animals and growing them in a lab, is estimated to use 99% less land and 96% less water with 96% lower GHG emissions than traditional meat according to Mosa Meats.

Yet, while alternative meat solutions are developing and would undoubtfully be positive for biodiversity, their direct impact largely depends on market acceptance, consumer habits and prices. A research article in Scientific Report [11] suggests that 86% of plant-based meat buyers also buy traditional meat (although spending 13% less on the latter). More interestingly, the same article indicates that purchasing the alternative for the first time does not alter the consumption of traditional meat. Of course, and hopefully, consumers’ behavior will probably change in the future and enable alternative meats to become a key driver of the agri-food sector’s transformation. Innovations in the food production systems are also promising, with for example the development of precision agriculture, a farming management system that relies on technology to ensure that crops and soil receive exactly what they need for optimum health and productivity. Within the food supply chain, new technologies to preserve food are emerging, with for example a plant-based protection spray developed by Apeel to keep goods fresh for longer and reduce food spoilage.

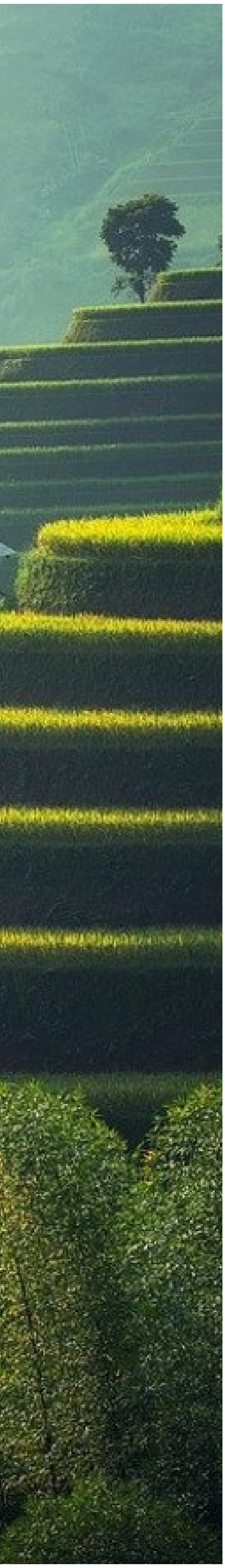
An alternative approach to relying on innovations and future habit changes is to take a more holistic view and to invest today in the companies that operate in the agricultural food sector based on their impact on biodiversity, either to promote positive environmental impacts or to foster substantial reductions of their biodiversity footprint.

Innovations with each segment of the food industry are undoubtfully part of the solutions, but cannot solely resolve the current issue. Furthermore, agri-food companies tend to be very complex and have generally a diversified business. It makes the assessment of their biodiversity footprint difficult. Therefore, an alternative approach could consist in focusing on the total biodiversity impact of their operations, products and services (in other words, on scope 3 GHG emissions). This may offer a good balance between targeting large and established players in the field, while linking investments towards the quantitative objective of reducing the biodiversity impact of this sector. In any case, the spectrum of actions for investors is therefore quite diversified, and one should not be favored or overlooked relative to the other.

The objective of this article is not to promote top-down approaches over bottom-up ones, or which one is better suited to address the biodiversity loss issues. The goal of this paper is to restate our reasoning and our philosophy to adress biodiversity loss and its consequences in terms of investment choices, as ESG approaches are unfortunately too often judged based on portfolio holdings.

When we started our research program on biodiversity in 2018 and chose to focus our efforts on the agricultural and food sector, we adopted the approach that best fits our quantitative DNA applied to systematic investing. Consequently, we developed a solution that aims to identify a portfolio of companies from the agri-food sector that minimizes its biodiversity footprint.

[10] https://www.ey.com/en_gl/strategy/how-alternative-proteins-are-reshaping-meat-industries
[11] https://www.nature.com/articles/s41598-022-16996-5



“A good example is the best sermon”, said Benjamin Franklin, therefore we will illustrate our investment philosophy with the case of McDonald’s.

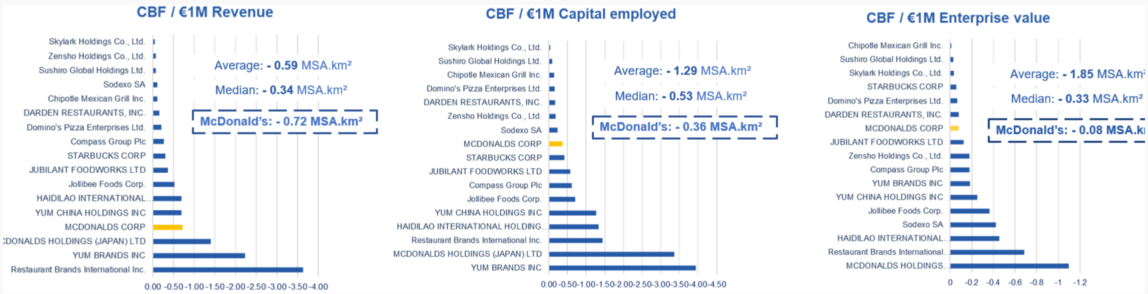
McDonald’s might not be the first name that comes to mind when considering an investment strategy aiming to reduce the impact on biodiversity. But before judging too fast, let’s have a look at the numbers.

McDonald’s serves approximately 70 million customers a day in its c. 40,000 restaurants that operate in more than 100 different countries [12]. To put these impressive figures into perspective, if we consider the world population being 7.3 billion, it means McDonald’s feeds 1% of the people globally on a daily basis. McDonald’s has a Mean Species Abundance per km2 (MSA.km2), coming from their property of more than 14,300. n other words, to operate its business, McDonald’s has to transform over 14,300 km2 of ‘intact’ ecosystems (approximately the surface of the Bahamas) into fully artificial areas. This figure does not take into account its supply chain, 100% outsourced, composed of numerous food suppliers to ensure McDonald’s large-scale operations.

To meet the demand of its customers for food, McDonald’s has to purchase large quantities of all types of commodities. This is of course the main contributor of its impact on biodiversity, with 95% coming from land use. The most material commodity in terms of biodiversity loss is cattle meat. McDonald is one of the largest purchasers of beef worldwide: in 2019, the company bought 23,400 tons. Other high-impact commodities, such as pork meat and dairy products, are also widely consumed. Therefore, if you are looking for a restaurant today and wonder where the money spent will have the least impact on biodiversity, McDonald’s may not seem your preferred choice at first sight.

These large numbers are of course the direct result of the sheer size of McDonald’s. In a similar context, the sheer size of utility companies make them rank top in the list of big GHG emitters, although when one takes into account their different energy mix, their capex, their revenues and long-term plans, it is not surprising to see that few of them are already best in class and committed toward net-zero [13].

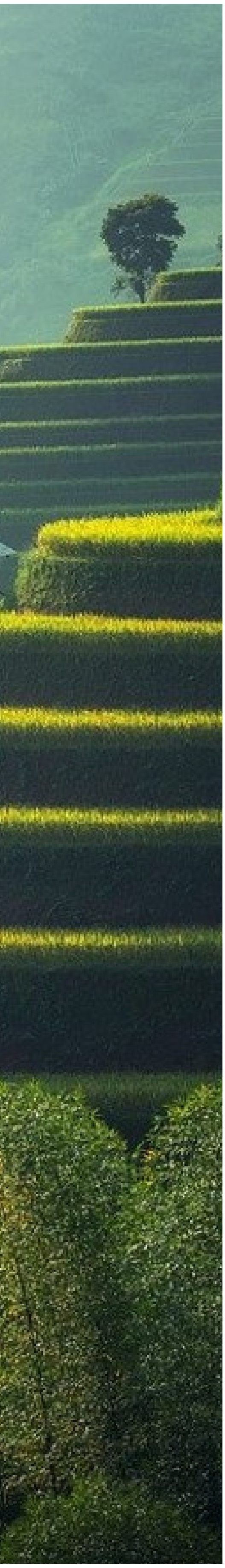
McDonald’s Biodiversity Footprint



Source: Iceberg Datalab, December 2021.

Similarly, when we take into account its size (using different proxies, such as market capitalization, enterprise value or employed capital for example) McDonald’s impact on biodiversity is significantly less than the food industry average. Therefore, for an agnostic investor only looking at hard data and aiming to select a company within the food industry that has a relatively reduced impact on biodiversity, an investment in McDonald’s could make sense. It must also be noted that McDonald's is working towards more transparent business practices; for instance, 99.4% of the beef sourced for McDonald’s restaurants supported deforestation-free supply chains by the end of 2020. McDonald’s has also carbon emission reduction targets certified by Science Based Targets (SBTi). By 2030, the company commits to cut greenhouse gas emissions to its restaurants and offices by 36%, and to a 31% reduction in emissions intensity across its supply chain.

[12] https://www.zippia.com/advice/mcdonalds-statistics/
[13] See for example Iberdrola or Enel.



The question is not whether McDonald's as a company is a key or an obstacle to the current issue of biodiversity loss. We could have made similar analyses to other large companies operating in this sector: Nestlé, Chipotle, Starbucks, etc. The example of McDonald's is to remind that these large companies, despite having currently significant absolute impact on biodiversity loss, are the driving forces of a transition to a more sustainable industry , and must therefore also be assessed relatively to the size of their operations

On top of this, the increase in global awareness in biodiversity preservation, materialized by the COP 15 in 2022 and the definition of the 30x30 target (protect 30% of lands, coastal areas, inland waters etc. before 2030), might result in a more tangible 'biodiversity premium' in stock returns. In fact, Garel and al. (2023) [14] show that investors have started to require a risk premium for stocks with large biodiversity footprints given the prospect of, and uncertainty about, future regulations. This corroborates with the findings of De Franco (2022) [15] which provides evidence of a relationship between biodiversity footprints and financial performances in 2021 in the agriculture and food industry. This will further incentivize companies, in particular those with high and liquid market capitalizations, to better address their impact on biodiversity.

If we remain agnostic by only relying on material data, tackling biodiversity loss via the food industry is critical, and selecting large operating companies within the sector is a necessary approach that is complementary to more impact-oriented or product-oriented ones. Furthermore, given the complexities of agri-food supply chains, with hundreds of thousands of small, unlisted and often family-owned businesses, it is clear that change can happen quickly is large players can foster good practices across their huge supply chains.

Now that we have these large names in our portfolio, what can we do more for biodiversity?

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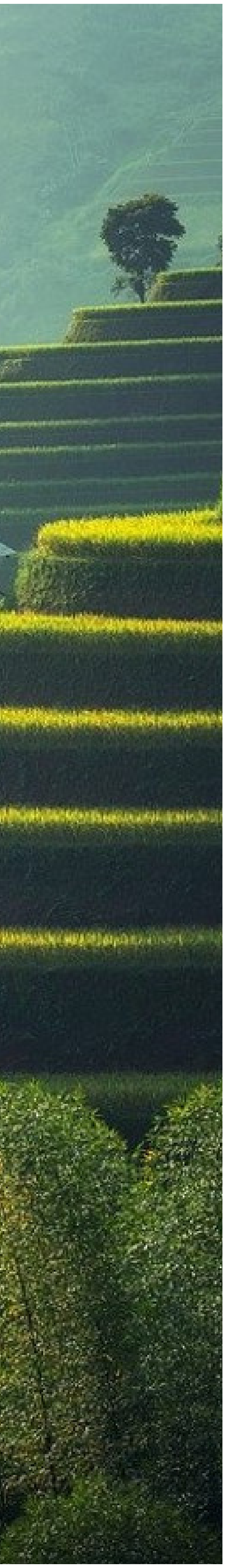
We are convinced that responsible investing plays a fundamental role in guiding company behavior, and therefore the world, towards a more responsible way of doing business. For our strategy focused on the reduction of the biodiversity footprint through the agri-food sector, it starts with the quantitative selection of stocks. But this is not enough, as engaging companies and the whole food industry is critical.

A first type of engagement could be described as 'top-down' and leverages on our shareholder's rights. In the case of our Food for Biodiversity strategy, we engage with investee companies on topics linked to biodiversity. For example, we asked companies, including McDonald's, to incorporate biodiversity-related KPIs and targets in their executive remuneration policy. The integration of such objectives in the remuneration schemes forces companies to closely measure, monitor and audit their biodiversity impact and incentivizes executives to reduce it.This type of 'natural' engagement, however essential, is not sufficient.

In fact, transforming the food industry requires experts' detailed knowledge of each step of the value chain to understand where pragmatic efforts must be made (a 'bottom-up' engagement approach). Here, Ossiam, together with other investors, partners with specialists in these topics, organizations such as Farm Animal Investment Risk and Return (FAIRR) that help raise awareness among society and companies of ESG risks and opportunities linked to large-scale herding and animal protein. As an example, Ossiam supported FAIRR in its engagement with a meat production company on waste management, where practice onsite leads to pollution in wastewater and air discharge.

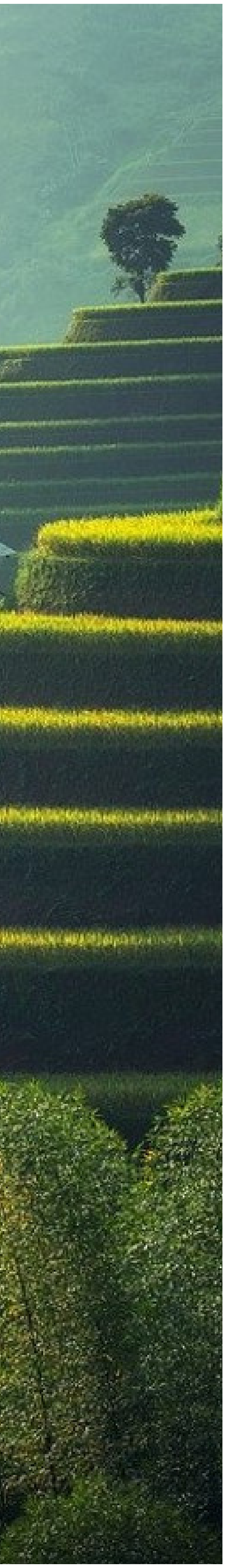
Better practices need to be implemented in the sector and investors know that it is time to take action. It is not a coincidence that international stewardship organizations, such as Nature Action 100, are mostly targeting agri-food companies. A sustainable food sector must be on the horizon.

[14] https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4398110
[15] C. De Franco (2022). Biodiversity: A key factor in the food and agriculture sector. Whitepaper.



Conclusion

Whether a company like McDonald's can be considered a way to address the biodiversity loss issues humanity faces or, on the contrary, it represents a clear obstacle and, should it wind down its operations biodiversity would benefit overnight, is a rather rhetoric question. Opinions do and will always diverge, and considering a company like McDonald's for investments by a strategy that puts the biodiversity issue at the core of its objectives can be difficult to reconcile with anyone's reasonable a-priori. The objective of this article is not to promote top-down approaches over bottom-up ones, or which one is better suited to address the biodiversity loss issue. The goal of this paper is to restate our reasoning and our philosophy to address biodiversity loss and its consequences in terms of investment choices, as ESG approaches are unfortunately too often judged based on portfolio holdings. This was in fact the case in the early days of ESG investing, with low carbon portfolios at one end (i.e., targeting quantifiable reductions in carbon footprint while investing in all sectors of the economy) and green energy/tech. funds at the other (i.e., investments in specific sectors that would contribute to a net zero economy). All approaches, however different, serve the same goal. In fact, investors and regulators have acknowledged the importance of more holistic ESG approaches to meet the objective of the Paris Agreement, as with the introduction of Paris-Aligned Benchmarks ("PAB"). We believe this is also the case for biodiversity investing.



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