June 17, 2022

Gary Gensler, Chair
U.S. Securities and Exchange Commission
100 F Street, NE
Washington, DC 20549

RE: Comments on S7-10-22: The Enhancement and Standardization of Climate-Related Disclosures for Investors

Dear Mr. Gensler:

The Baltimore Area Chapter of The Climate Reality Project submits these comments in response to the proposed rule, The Enhancement and Standardization of Climate-Related Disclosures for Investors (henceforth, "Climate-Related Disclosures"). The Climate Reality Project is a global nonprofit organization dedicated to catalyzing a global solution to the climate crisis. If properly developed and implemented, the proposed rule could have significant climate mitigation and adaptation benefits.

We support issuing the proposed rule, with the following changes:

1. Place Scope 3 emissions on the same timeline as Scope 1 and 2 (i.e., 2024 for large accelerated filers and 2025 for other filers);
2. Require all registrants to disclose their Scope 3 emissions except for small businesses as defined by the U.S. Small Business Administration;
3. Explicitly include land use and land sector activities in the disclosure of climate-related risks;
4. Require transparency, certification, and accurate accounting when reporting offsets;
5. Encourage quantification and disclosure of the economic and financial risks of biodiversity impacts.

An important step forward

The proposed rule for climate-related disclosures incorporates well-established frameworks developed by the Task Force on Climate-Related Financial Disclosure (TCFD) and the Greenhouse Gas (GHG) Protocol. The European Union passed similar rules in 2021 (the Sustainable Finance Disclosure Regulation). The proposed rule is a critical step to protect investors and the planet. Investors have always needed full and fair disclosures to make informed choices, and the tremendous risks of climate change impacts and stranded assets greenhouse gas emissions and the risks they face from climate change. Empirical evidence has demonstrated that how companies approach environmental, social,

and governance (ESG) matters (such as climate change) can directly impact financial performance.[1] Given the scope of the climate crisis, information concerning climate-related risks to firms as well as the climate-related externalities of those firms that may be subject to regulation or litigation are material to investor decision-making.

As the material risks posed by climate change and ecosystem degradation become increasingly apparent, a growing number of investors are mobilizing to address this risk in their portfolios.[2] In 2020, BlackRock CEO Larry Fink announced environmental sustainability as a core goal for his company's future investment decisions, saying "The evidence on climate risk is compelling investors to reassess core assumptions about modern finance."[3] BlackRock is the world's largest asset manager and had lost an estimated $90 billion by investing in oil and coal companies that were falling in value and by missing out on growth in clean energy investments.[4]

Carbon Disclosure Project (CDP) is a not-for-profit that runs a global disclosure system used by thousands of financial institutions, companies, states, cities, and regions to measure and manage their risks and opportunities on climate change, water security and deforestation.[5] 86% of companies disclosing through CDP thought disclosures protected and improved their organization's reputation.[6] 76% said it boosted their competitive advantage.[7]

A third of the 7,000 corporate annual reports the SEC reviewed in 2019 and 2020 included climate impact disclosures of some sort.[8] If finalized with appropriate provisions, the proposed rule would bring consistency and standardization to these reportings, so that apples can be compared to apples rather than oranges. It would also require the disclosure of greenhouse gas emissions and the reporting of data to back up claims; e.g., reaching net-zero emissions by a certain year. Collectively, these measures would help Americans make informed choices about their investments and help mitigate the climate crisis.

Inadequate coverage of Scope 3 emissions

Unfortunately, the proposed rule contains weaknesses, such as coverage of Scope 3 emissions, defined as the result of activities from assets not owned or controlled by the reporting organization, but that the organization indirectly impacts in its value chain. Since Scope 3 emissions can account for more than 70% of a business' carbon footprint,[9] it is crucial—and "necessary or appropriate in the public

---

[1] For example, a 2015 paper that effectively analyzed more than 2,200 unique primary studies on the subject found a clear positive relation between ESG measures and financial performance. The relationship persisted when environmental measures specifically were looked at. Friede, G., Busch, T., & Bassen, A. 2015. ESG and financial performance: Aggregated evidence from more than 2000 empirical studies. *Journal of Sustainable Finance & Investments* 5(4):210-233. https://www.tandfonline.com/doi/full/10.1080/20430795.2015.1118917

[2] Ceres. 2020. The Investor Guide to Deforestation and Climate Change.

[3] Fink, L. 2020. A Fundamental Reshaping of Finance. https://www.blackrock.com/corporate/investor-relations/larry-fink-ceo-letter [Accessed Sep. 15, 2020].

[4] Ambrose, K. 2019. BlackRock lost $90bn investing in fossil fuel companies, report finds. The Guardian, July 31, 2019.

[5] https://www.cdp.net/en/info/about-us/what-we-do

[6] https://cdn.cdp.net/cdp-production/comfy/cms/files/files/000/003/353/original/CSC-Benefits-Slides-Pack.zip. [Accessed May 13, 2022].

[7] *Ibid.*

[8] https://www.nytimes.com/2022/03/21/business/sec-climate-disclosure-rule.html

[9] https://www.unglobalcompact.org.uk/scope-3-emissions/

interest or for the protection of investors"[10] – that companies disclose information about their Scope 3 emissions. In the proposed rule, Scope 3 emissions reporting would not begin for large accelerated filers until 2025 and not until 2026 for other filers. The SEC proposes allowing companies to decide for themselves whether their Scope 3 emissions are relevant and also proposed a safe harbor for Scope 3 disclosure to alleviate filer concerns surrounding liability. And "smaller" companies (the threshold for which far exceeds the U.S. Small Business Administration's definition of a small business) are entirely exempt.

The proposed timeline and exemptions do not reflect the need to take immediate action on climate change and for the critical need of the public and investors to understand the significant risks introduced by climate change. President Biden set a target for the United States to achieve a 50-52% reduction from 2005 levels in economy-wide net greenhouse gas pollution by 2030,[11] necessitating prompt action. And by leaving it up to companies to determine the significance of Scope 3 emissions and shielding issuers from liability if they provide false or misleading information, the proposed rule would allow companies to omit most of their emissions from disclosures. We urge the SEC to: (1) place Scope 3 emissions on the same timeline as Scope 1 and 2 (2024 for large accelerated filers and 2025 for other filers); and (2) require all registrants to disclose their Scope 3 emissions except for small businesses as defined by the U.S. Small Business Administration (i.e., do not leave it up to the registrant to decide).

Address deforestation and other land use changes

Protection and restoration of forests, wetlands, grasslands, and seagrasses are key to meeting America's climate goals, and companies' impact on them, the risk they face by their loss, and their exposure to current and future legal mechanisms to protect them should therefore be explicitly addressed in the proposed rule. Between 1997 and 2011, the world lost an estimated $4-20 trillion per year in ecosystem services from land cover change and $6-11 trillion per year from land degradation.[12] Halting the loss and degradation of natural systems and promoting their restoration could contribute over one-third of the total climate change mitigation required by 2030.[13] It therefore should be included in the accounting of climate-related risks and emissions. If the GHG Protocol's guidance related to land use and land sector activities is completed before the rule is finalized, it would be consistent and welcome for the agency to reflect those revisions in the rule as well. If the GHG Protocol's final land use report is still pending, the SEC can nevertheless incorporate language mandating disclosure of this information, which otherwise might be omitted.

---

[10] Section 2(b) of the Securities Act, 15 U.S.C. 77b (b), and Section 3(f) of the Exchange Act, 17 U.S.C. 78c(f)

[11] https://www.whitehouse.gov/briefing-room/statements-releases/2021/04/22/fact-sheet-president-biden-sets-2030-greenhouse-gas-pollution-reduction-target-aimed-at-creating-good-paying-union-jobs-and-securing-u-s-leadership-on-clean-energy-technologies/

[12] Costanza, R.; de Groot, R. S.; Sutton, P.; Ploeg, S. van der; Anderson, S.J.; Kubiszewski, I.; Farber, S.; Turner, R.K. 2014. Changes in the global value of ecosystem services. Global Environmental Change 26:152-158.

[13] https://www.iucn.org/sites/dev/files/forests_and_climate_change_issues_brief_2021.pdf

Ecological degradation affects all sectors of society, especially the most vulnerable.[14] It also has serious negative consequences for investors.[15] For example, investors holding equities in sectors and industries like food products, household products, auto components, textiles, apparel, and luxury goods, among others, face financial exposure to risks from deforestation.[16] Businesses rely on genes, species, and ecosystem services as critical inputs into production processes and depend on healthy ecosystems to maintain soil, water, and air quality.[17] Agribusinesses need the wild relatives of food crops as a genetic resource for resistance to disease and pests.[18] Ecotourism relies on healthy ecosystems; e.g., unbleached coral reefs. Climate change, deforestation, and biodiversity loss are systemic risks that pose vulnerabilities to businesses in all sectors and have the potential to trigger the collapse of an entire industry or economy. Figure 1 shows potential impacts of biodiversity loss on different economic sectors.[19]

The Discussion section of the proposed rule mentions forest protection as an example of a potential carbon offset. However, the rule lacks sufficient guidance regarding emission and sequestration accounting, and there is a danger that (1), deforestation and other ecosystem conversion will be ignored (especially within Scope 3; e.g., from suppliers) and (2), reported offsets will not be reliably quantified.

In Executive Order 14,072 ("Executive Order on Strengthening the Nation's Forests, Communities, and Local Economies"; April 22, 2022), President Biden identified deforestation as of critical concern when it comes to climate change and ordered federal agencies to develop a plan to reduce deforestation at an international level, including through new legislation and policy tools.[20] Given the likelihood of new laws, regulations, and government actions in the United States and internationally, it is important that corporations whose activities are involved with land conversion or degradation, whether directly or indirectly, disclose their impacts on climate change as well as the impact of such activities as they directly relate to those companies' current and future legal and economic exposure.

Carbon offsets should be certified, and transparent regarding the baseline and system of measurement. Offsets should demonstrate additionality, permanence, lack of leakage, and lack of double-counting.

---

[14] Islam, S. N., and J. Winkel. 2017. Climate Change and Social Inequality. United Nations Dept. of Economic and Social Affairs, DESA Working Paper No. 152. ST/ESA/2017/DWP/152.

[15] Ceres. 2020. The Investor Guide to Deforestation and Climate Change.

[16] *Ibid.*

[17] International Finance Corporation (IFC). 2020. The Relationship of Business to Biodiversity. https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/publications/biodiversityguide_understanding_business [Accessed 1 Sep. 2020].

[18] *Ibid.*

[19] World Economic Forum. 2010. Biodiversity and business risk. World Economic Forum, Geneva, Switzerland.

[20] https://www.whitehouse.gov/briefing-room/presidential-actions/2022/04/22/executive-order-on-strengthening-the-nations-forests-communities-and-local-economies/

		Sectors most likely to be affected[17]							
Category	**Risk**	**Primary Industries** (e.g. forestry, oil & gas, mining, farming and fishing)	**Utilities** (e.g. electricity, gas, water)	**Consumer Goods** (e.g. automobiles, food products, household products)	**Consumer Services** (e.g. retailers, media, travel and leisure)	**Health Care** (e.g. pharmaceuticals, biotechnology, healthcare providers)	**Industrials** (e.g. construction, aerospace, components)	**Financials** (e.g. banking, insurance, asset management)	**Technology and business services** (e.g. software, telcoms, consulting)
Physical risk	**Reduced productivity** Biodiversity loss, ecosystem degradation and consequent loss of ecosystem services can adversely impact productivity across a range of sectors.	✓	✓	✓					
	Scarcity and increased cost of resources For companies reliant on plant and animal commodities including genetic materials, scarcity and increasing costs pose a significant threat to on-going viability.	✓	✓	✓	✓	✓	✓		
	Disruption of operations Years of ecosystem degradation has left many areas vulnerable to what were once termed 'natural disasters'.	✓	✓	✓	✓	✓	✓	✓	✓
Regulatory and legal risk	**Restricted access to land and resources** Many business models rely on access to natural ecosystems and areas of high biodiversity and in a number of regions this access is becoming more difficult to obtain.	✓	✓						
	Litigation Companies are frequently subject to litigation as a result of their exploitation of biological resources or their adverse impacts on ecosystems and the associated human health consequences.	✓				✓			
	Reduced quotas A number of sectors are subject to quotas governing the extraction of biological resources. These quotas restrict business growth and when tightened they can have a dramatic effect on company prospects in the short term.	✓							
	Pricing and compensation regimes Governments around the world are introducing new compensation regimes and market based instruments to help address threats to ecosystems and biodiversity by putting a price on the environmental damage caused by companies. Such mechanisms will significantly increase costs for sectors and operators affected.	✓	✓				✓		
Market risk	**Changing consumer preferences** As consumers become increasingly aware of the environmental credentials of companies and their products there is evidence that buying habits are already changing. If this trend continues, sustainably extracted natural materials will eventually be a core requirement for market access in the sectors affected.	✓		✓	✓				
	Purchaser requirements A number of major purchasers are introducing or enhancing sustainable procurement guidelines which present significant risks for suppliers that will struggle to comply.	✓		✓					
Other risks	**Reputational risk** Association with adverse impacts on biodiversity and ecosystems can result in severe damage to a company's brand and restrict its 'social license to operate'.	✓	✓	✓	✓	✓	✓	✓	✓
	Financing risk Risks outlined above may have an adverse impact on a company's cash flows reducing its credit quality and consequently increasing the cost of accessing new finance. Major lenders are also tightening environmental requirements for access to corporate loans, particularly signatories to the Equator Principles, and insurers are increasingly sensitive to risks associated with biodiversity loss and ecosystem degradation.	✓	✓					✓	
	Supply chain risk Risks outlined above can have dramatic adverse consequences for downstream operators threatening security of supply chains or leading to increased costs.			✓	✓	✓			

Figure 1. Types of risks related to declining biodiversity and loss of ecosystem services, by economic sector (World Economic Forum, 2010).

The GHG Protocol, which helped support and inform the Commission's proposed climate-related reporting rules, is developing additional guidance related to land use and land sector activities[21] that should be reflected in the SEC guidance. Draft guidance is currently available for pilot testing and review, and final publication is expected in early 2023. The GHG's land sector guidance will be used

[21] https://ghgprotocol.org/land-sector-and-removals-guidance

to "inform mitigation strategies by understanding the GHG emissions/removals impacts of land use, land use change, bioenergy and carbon removal activities; set targets and track performance by including the above activities in GHG targets; and report GHG inventories including GHG emissions and carbon removals and report progress toward GHG mitigation goals."[22] It will be designed "to create more consistency and transparency in the way companies quantify and report GHG emissions and removals from land use, land use change, bioenergy and carbon removal technologies."[23]

As additional source material, CDP's Forests branch "provides a framework of action for companies to measure and manage forest-related risks and opportunities, transparently report on progress, and commit to proactive action for the restoration of forests and ecosystems."[24] An overview of CDP's 2022 scoring process can be found at https://cdn.cdp.net/cdp-production/cms/guidance_docs/pdfs/000/000/233/original/Scoring-Introduction.pdf.

The need to address biodiversity loss

Finally, the SEC should address the biodiversity crisis, within this proposed rule if possible, or in a follow-up rule. As with greenhouse gas emissions, deforestation, and land use change, biodiversity impacts represent economic and financial risks and can be quantified and disclosed.

Civilization relies on nature's ability to provide food, fiber, and many other goods and services, and nature functions most effectively when all the pieces (e.g., species) and processes (e.g., nutrient cycling, pollination) are present. More than half of the world's economic output—$44 trillion of economic value generation—is moderately or highly dependent on nature.[25] A conservative estimate of the economic cost of global biodiversity loss and ecosystem degradation is 7% of global GDP by 2050.[26] Nature loss therefore represents significant risk to corporate and financial stability.[27]

Relationships between biodiversity and climate change

In a recent peer-reviewed report, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) and Intergovernmental Panel on Climate Change (IPCC) found that the biodiversity and climate crises are closely intertwined, and addressing them together offers numerous synergies and benefits to society.[28] The adaptive capacity of most ecosystems will be exceeded if climate warming is not kept well below 2°C. Other pressures such as land conversion, overexploitation and pollution must also be kept in check.

Conversely, healthy ecosystems can play an important role in climate mitigation by sequestering carbon. Biodiversity plays an essential role, in that each species contains unique adaptations to process and store carbon compounds, other materials, and energy, yet interacts with other species in a web of

[22] https://ghgprotocol.org/sites/default/files/standards/LSR_Overview.pdf
[23] *Ibid.*
[24] https://www.cdp.net/en/forests
[25] https://www3.weforum.org/docs/WEF_New_Nature_Economy_Report_2020.pdf
[26] The Economics of Ecosystems and Biodiversity (TEEB). 2008. The Cost of Policy Inaction.
[27] https://tnfd.global/
[28] Pörtner, H.O., et al. 2021. IPBES-IPCC co-sponsored workshop report on biodiversity and climate change. IPBES and IPCC. doi:10.5281/zenodo.4782538.

dependencies. Managing for biodiversity often has important implications for mitigating climate change[29] and its effects[30].

Relationships between biodiversity, ecosystem services, and the economy

Species diversity is a major determinant of ecosystem productivity, functioning (e.g., nutrient cycling), and resilience,[31] as well as the provision of ecosystem services such as medicines, pest control, pollination, and recreation.[32] Each native species plays a role in ecosystem functioning, and ecosystems with higher diversity are generally more efficient. For example, diverse communities are more likely to contain species able to utilize different amounts and combinations of limiting resources like nutrients or light; and more likely to have symbiotic relationships.[33] Ecosystem resistance and resilience to stresses is dependent on species composition and diversity. Diverse communities are more likely to contain species tolerant to disturbances like flooding, fire, drought, or pests. The spread of pests is quicker among spatially contiguous hosts, making monocultures especially vulnerable. Ecosystems with low diversity, like islands or agricultural fields, are also more susceptible to invasion by exotic or weedy species, because of empty niches.

According to a systematic review of published studies, higher species richness, diversity, and abundance benefit a number of ecosystem services, such as timber production, freshwater fishing, pest regulation, pollination, and ecotourism.[34] More diverse plant communities can be more resistant to invasion by exotic plants and insect herbivores.[35] Declines in pollinator diversity have been linked to decreasing fruit set for many crops.[36] Greater species richness can increase fisheries productivity and stability.[37]

---

[29] Shin, Y.-J., Midgley, G. F., Archer, E. R. M., Arneth, A., Barnes, D. K. A., Chan, L., Hashimoto, S., Hoegh-Guldberg, O., Insarov, G., Leadley, P., Levin, L., Ngo, H. T., Pandit, R., Pires, A. P. F., Pörtner, H.-O., Rogers, A. D., Scholes, R. J., Settele, J., & Smith, P. (2022). Actions to halt biodiversity loss generally benefit the climate. Global Change Biology, 28, 2846–2874. https://doi.org/10.1111/gcb.16109.

[30] Hisano, M., E. B. Searle, and H. Y. H. Chen. 2018. Biodiversity as a solution to mitigate climate change impacts on the functioning of forest ecosystems. Biological Reviews 93:439–456. doi: 10.1111/brv.12351.

[31] Tilman, D., F. Isbell, & J. M. Cowles. 2014. Biodiversity and Ecosystem Functioning. Annual Review of Ecology, Evolution, and Systematics 45(1):471-493.

[32] Balvanera, P., S. Quijas, B. Martín-López, E. Barrios, Dee, L. E., Isbell, F. I., Durance, I., White, P., Blanchard, R., & de Groot, R. 2016. The links between Biodiversity and Ecosystem Services. Pp. 45-49 in Routledge Handbook of Ecosystem Services (Editors: M. Potschin, R. Haines-Young, R. Fish, & R. Kerry Turner). Routledge, Taylor & Francis Group.

[33] Weber, T. 2007. Development and application of a statewide conservation network in Delaware, U.S.A. Journal of Conservation Planning 3:17-46.

[34] Harrison, P. A. et al. 2014. Linkages between biodiversity attributes and ecosystem services: A systematic review. Ecosystem Services 9:191-203.

[35] Balvanera, P., S. Quijas, B. Martín-López, R. de Groot, et al. 2015. The links between biodiversity and ecosystem services. In: Potschin, M., R. Haines-Young, R. Fish, and R. K. Turner (eds.). Routledge Handbook of Ecosystem Services. Routledge, Taylor & Francis.

[36] Luck, G. W., Harrington, R., Harrison, P. A., et al. 2009. Quantifying the contribution of organisms to the provision of ecosystem services. BioScience 59(3):223–235.

[37] Balvanera, P., S. Quijas, B. Martín-López, R. de Groot, et al. 2015. The links between biodiversity and ecosystem services. In: Potschin, M., R. Haines-Young, R. Fish, and R. K. Turner (eds.). Routledge Handbook of Ecosystem Services. Routledge, Taylor & Francis.

When species disappear from an ecosystem, those that depend on them for food, pollination or other needs also begin to disappear.[38] This can decrease overall productivity and resilience.[39] At a certain point, it becomes a "Jenga effect"– pull out too many pieces, and eventually the structure collapses. Examples include forest turning to grassland and coral reefs becoming expanses of sand. Such ecosystem collapses accelerate climate change and worsen its effects, posing risks to companies and individuals across economic sectors.

Zoonotic diseases, which start in animals and then infect humans, are an especially impactful example of ecosystem disruption, being exacerbated by deforestation, wildlife harvesting, and climate change. About 60% of human infections, including 75% of emerging infectious diseases, jump from animals to people.[40] COVID-19 is a bat-derived RNA virus that most likely jumped to another animal which then infected humans.[41] As of May 12, 2022, at least (i.e., reported and confirmed) 517 million people worldwide had been infected and 6.3 million died.[42] In the U.S. alone, 81.3 million were infected and nearly a million died.[43] It has cost the world economy trillions of dollars in output[44] and pushed millions into extreme poverty[45].

Quantifying biodiversity-related risks and impacts

By developing clear frameworks for reporting on biodiversity-related risks and impacts aligned with global targets set out in the Convention on Biological Diversity, the SEC could reduce the degree of climate change and increase resilience to its effects. For example, diverse natural forests are better able to withstand and recover from pest and disease outbreaks, drought, and flooding than monocultures,[46] and are therefore provide more reliable long-term carbon storage and provision of other benefits.[47]

The Task Force on Nature-related Financial Disclosures (TNFD) released a prototype risk management and opportunity disclosure framework (v0.1) in March 2022, available at https://tnfd.global/the-tnfd-framework/. It contains an outline of fundamental concepts and definitions for market participants to use when assessing and disclosing their nature-related risks and opportunities; draft disclosure recommendations for nature-related risks and opportunities; and guidance for corporate and financial institutions to undertake nature-related risk and opportunity assessment and incorporate into their enterprise strategy and risk management processes to inform a

[38] Ehrlich, P. R., and H. A. Mooney. 1983. Extinction, substitution, and ecosystem services. BioScience 33(4):248-254.
[39] Tilman, D., F. Isbell, & J. M. Cowles. 2014. Biodiversity and Ecosystem Functioning. Annual Review of Ecology, Evolution, and Systematics 45(1):471-493.
[40] United Nations Environment Programme and International Livestock Research Institute (UNEP and ILRI) 2020. Preventing the Next Pandemic: Zoonotic diseases and how to break the chain of transmission. Nairobi, Kenya.
[41] World Health Organization. 2021. WHO-convened Global Study of Origins of SARS-CoV-2: China Part.
[42] https://covid19.who.int/ [Accessed May 13, 2022]
[43] Ibid.
[44] Congressional Research Service. 2021. Global Economic Effects of COVID-19. R46270; Nov. 10, 2021.
[45] United Nations Department of Economic and Social Affairs. 2022. World Economic Situation and Prospects 2022.
[46] Liu, C. L. C., O. Kuchma, and K. V. Krutovsky. 2018. Mixed-species versus monocultures in plantation forestry: Development, benefits, ecosystem services and perspectives for the future. *Global Ecology and Conservation* Vol. 15, e00419.
[47] Osuri, A. M., et al. 2020. Greater stability of carbon capture in species-rich natural forests compared to species-poor plantations. *Environmental Research Letters* 15 034011

range of corporate and capital allocation decisions, including those relating to reporting and disclosure.[48]

A recent paper in the journal *Nature* described and tested a methodology to quantify the biodiversity impacts of an institution, and compared different strategies to mitigate and offset these impacts such that there would be no net negative impacts.[49] For a sustainable, resilient future, the authors urged all large organizations to commit to strategies for a net gain in biodiversity, and to adopt formalized approaches that quantify current impacts and allow transparent tracking of progress. They also cited initiatives being developed to provide more transparency about environmental impacts across supply chains, such as the supply-chain mapping tool TRASE[50], which aims to address deforestation. A related challenge is ensuring that biodiversity offsets are effectively and appropriately implemented such that they lead to conservation outcomes that are truly additional.[51] In the case of restoration, the probabilistic level of success and the lag time (the time for the restored ecosystem to reach maturity) must be considered.

The World Economic Forum (2010) listed initiatives and resources businesses could use to address biodiversity loss and manage risk (Figure 2).

[48] https://tnfd.global/the-tnfd-framework/tnfd-framework-summary/
[49] Bull, J. W., I. Taylor, E. Biggs, H. M. J. Grub, T. Yearley, H. Waters, and E. J. Milner-Gulland. 2022. Analysis: the biodiversity footprint of the University of Oxford. Nature 604:420-424. doi: https://doi.org/10.1038/d41586-022-01034-1.
[50] https://www.trase.earth/
[51] Bull, J. W., I. Taylor, E. Biggs, H. M. J. Grub, T. Yearley, H. Waters, and E. J. Milner-Gulland. 2022. Analysis: the biodiversity footprint of the University of Oxford. Nature 604:420-424. doi: https://doi.org/10.1038/d41586-022-01034-1.

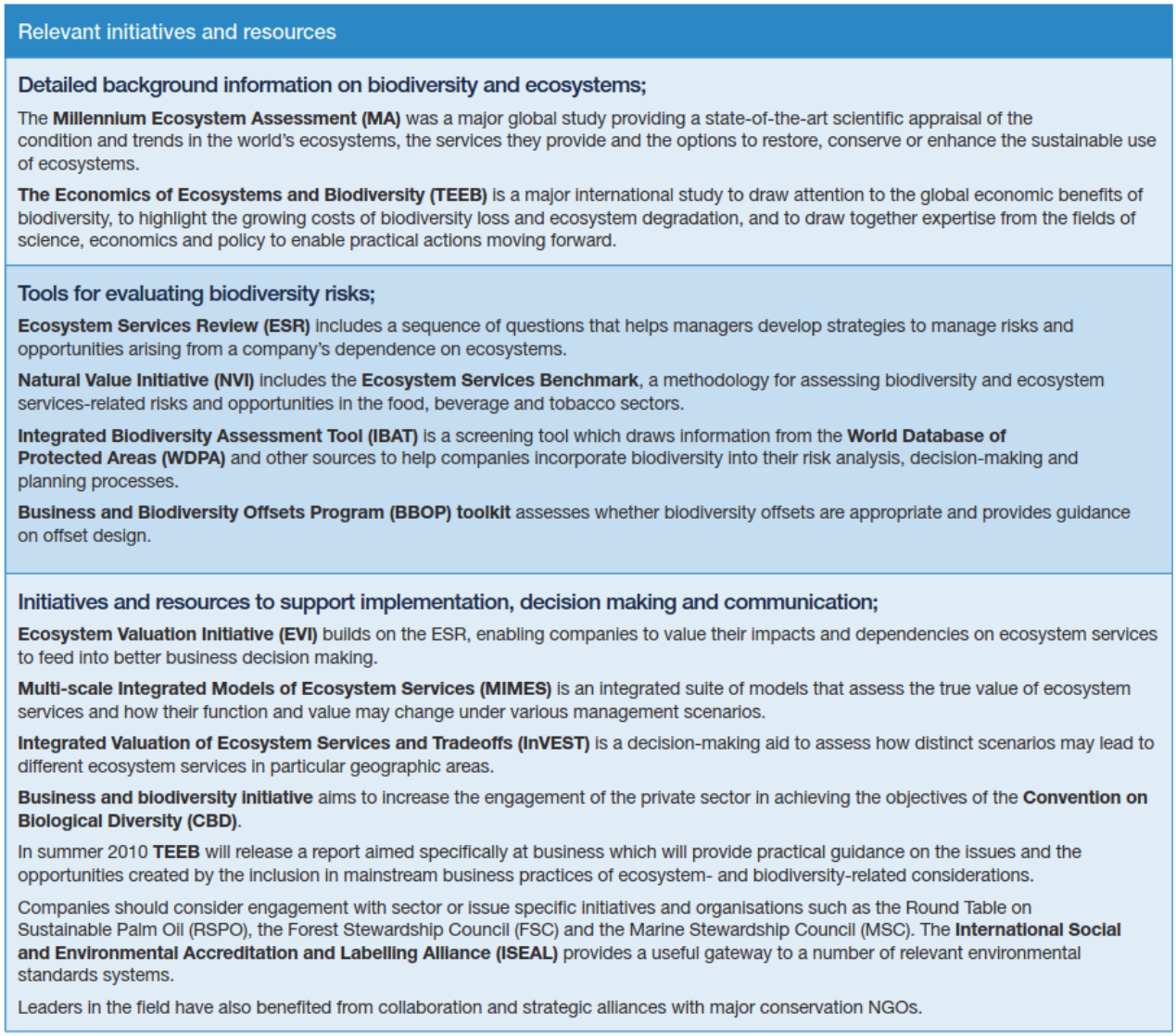

Figure 2. Initiatives and resources businesses can use to address biodiversity loss and manage risk (World Economic Forum, 2010).

Thank you for considering our comments. Please do not hesitate to contact me with any questions.

Sincerely,

Ted Weber

Chair, Baltimore Area Chapter of The Climate Reality Project