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Incorporating Nature

By Sarah E. Light & James Salzman[1]

ABSTRACT

Over the past decade, businesses have faced unprecedented demands from governments and stakeholders to account for the risks they face from climate change as well as their firms' impacts on climate. These very same demands have begun – in fits and starts – to focus on natural capital. Public and private efforts to incorporate nature into business decisions across the globe are advancing rapidly and significantly yet remain ignored in law reviews. This Essay explains and analyzes these new developments, which closely mirror the "climate playbook" through monitoring, disclosure, and target-setting requirements. While following the climate playbook for natural capital may seem appealing, it presents distinct challenges. Unlike greenhouse gas emissions – globally fungible and uniform in impact – natural capital is non-fungible, varying across time, space, and type. Accounting for natural capital therefore imposes inherent tradeoffs. To avoid the risks of performative compliance and potential backlash, the Essay proposes a path forward grounded in bottom-up reporting and public participation to establish goals and assess tradeoffs.

INTRODUCTION

Over the past decade, global business firms have faced unprecedented pressures to incorporate climate considerations into their thinking, and from every angle. Investors demand net zero pledge announcements at international climate negotiations.[2] The European Union requires business

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[2] Paris Agreement to the United Nations Framework Convention on Climate Change, art. 2, Dec. 12, 2015, T.I.A.S. No. 16-1104 (entered into force Nov. 4, 2016). The Trump Administration has announced its intention to withdraw the United States from the Paris

firms to disclose climate risks and emissions.[3] The California legislature has adopted new laws requiring both public and private firms doing business in California meeting certain revenue thresholds to disclose both their emissions and climate risks.[4] And private environmental governance programs like the Science Based Targets initiative (SBTi) stand ready to verify private climate pledges.[5] Despite the retreat from climate actions in the current Trump Administration, firms are still facing pressures to address climate change from other stakeholders.[6] Less well known and more novel, however, is the fact that firms are facing the very same pressures to incorporate *nature* into their businesses.

Most people don't consider the link between nature and business, yet it's readily apparent once one looks. Almond farmers depend upon bees to pollinate their trees.[7] Global pharmaceutical companies rely on biodiversity to provide the building blocks for new medicines.[8] The ocean economy depends upon the existence of healthy coral reefs and other natural ecosystems to provide habitat for fish, storm surge protection for upland properties, and aesthetic beauty for human recreation.[9]

Agreement. Executive Order, *Putting America First in International Environmental Agreements* (Jan. 20, 2025).

[3] European Union, Corporate Sustainability Reporting. https://finance.ec.europa.eu/capital-markets-union-and-financial-markets/company-reporting-and-auditing/company-reporting/corporate-sustainability-reporting_en.

[4] The Climate-Related Financial Risk Act, SB 261; The Climate Corporate Data Accountability Act, SB 253. Under the prior administration, the Securities and Exchange Commission adopted a regulation mandating disclosure of climate risks and emissions. Securities and Exchange Commission, The Enhancement and Standardization of Climate-Related Disclosures for Investors, 89 FR 21668 (Mar. 6, 2024). However, the SEC has ceased defense of the regulation. See SEC Votes to End Defense of Climate Disclosure Rules (Mar. 27, 2025), https://www.sec.gov/newsroom/press-releases/2025-58. .

[5] Science Based Targets initiative, https://sciencebasedtargets.org/ (2024); *see generally* Sarah E. Light & Eric Orts, *Private Environmental Governance*, 5 Mich. J. Env't. & Admin. L. 1 (2015). (discussing certifications as a form of private environmental governance).

[6] Indeed, while numerous firms have limited their public statements about climate-related actions in light of the current political realities in the United States, many remain quietly committed to such actions in a phenomenon known as "greenhushing." See, e.g., H. Claire Brown, *Companies Haven't Abandoned Sustainability, They're Just Talking About it Less*, WSJ (Aug. 19, 2024

[7] Deputy Rowdy J. Freeman, *Hive Theft Peaked in 2023*, California Almond Board, https://www.almonds.com/almond-industry/industry-news/hive-theft-peaked-2023.

[8] CBD, WHO and UNEP, *Connecting Global Priorities: Biodiversity and Human Health, a State of Knowledge Review* (2015) ("The value of the global trade in plants used for medicinal purposes may exceed US$ 2.5 billion, and is increasingly driven by industry demand."). https://www.cbd.int/health/SOK-biodiversity-en.pdf.

[9] https://oceanpanel.org/the-oceans-importance/; Sarah E. Light & Carolyn Kousky, *Insuring Nature*, 69 Duke L.J. 323 (2019) (discussing the ecosystem services provided by coral reefs)

Many firms dependent upon nature also have an impact on the natural systems on which they rely. Those same almond growers in California harm the health of bee colonies through their use of pesticides.[10] Fast fashion companies depend upon vast quantities of water to make their products, yet also contribute to the problem of microplastic pollution in waterways when their clothing is washed, dyed, or discarded.[11]

Over the past few years, through both public law and private environmental governance, pressures have been brought to bear on business to account for nature, particularly in Europe.[12] This is not widely known outside certain circles of sustainability experts. What is even less known, though equally important, is that campaigns to incorporate nature into business decisions are following the climate change playbook to guide their actions. By "playbook," we mean the specific strategies we describe in detail below designed to drive climate mitigation, including international scientific assessments, top-down treaties, and both legislative and voluntary sectoral disclosure requirements.

At first glance, this makes a lot of sense. While climate change and loss of natural capital obviously are different problems, they share many similarities. Both are fundamentally problems of public goods provision. Just as many firms that depend on natural capital often harm nature, many firms that depend on a stable climate also contribute significantly to greenhouse gas emissions.

And the climate playbook has worked well. Despite recent setbacks and controversy,[13] public and private efforts have made climate impact change a much greater C-Suite concern than just a decade ago. While increasingly politicized at both the state and federal levels, the issue is not going away.

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[10] Wen-Yen Wu, Ling-Hsiu Liao, Chia-Hua Lin, Reed M. Johnson & May R. Berenbaum, *Effects of pesticide-adjuvant combinations used in almond orchards on olfactory responses to social signals in honey bees (Apis mellifera),* 13 Sci. Rep. 15577 (2023).

[11] European Environment Agency, *Microplastics from Textiles: Towards a Circular Economy for Textiles in Europe* (Feb. 10, 2022), https://www.eea.europa.eu/publications/microplastics-from-textiles-towards-a; Vanessa Turk, *Fast Fashion: Polluting our Water Millions of Clothing Items at a Time* GW Environmental and Energy Law Blog (2023), https://blogs.gwu.edu/law-gwpointsource/2023/10/02/fast-fashion-polluting-our-water-millions-of-clothing-items-at-a-time/ (noting that fashion is the second largest industrial user of water after agriculture).

[12] We note, however, that even in the EU there have been efforts to reverse and limit environmental initiatives touching both on climate and biodiversity. See, e.g., Carl Mathieson, *Ursula von der Leyen amputates the Green Deal to save its life*, CLIMATEWIRE (June 27, 2025).

[13] Amanda Shanor & Sarah E. Light, *Anti-Woke Capitalism, The First Amendment, and the Decline of Libertarianism*, 118 NW. U. L. REV. 347 (2023) (discussing state laws prohibiting state agencies from doing business with firms taking climate change and other environmental, social, and governance factors into account).

In just the past year, there have been two important developments for nature measurement and reporting that follow the climate playbook. In the realm of public governance, just as the state of California and the European Union has mandated disclosure of climate risks and emissions, in 2024 the European Union mandated corporate disclosure of biodiversity and nature risks and impacts with specific standards in the European Sustainability Reporting Standards.[14] And in private governance, just as the influential private Task Force on Climate-related Financial Disclosures (TCFD) created a framework for disclosing climate risks, the Task Force on Nature-related Financial Disclosures (TNFD) has done the same for nature risks.[15]

This Essay makes two contributions. The first is identifying and explaining these developments to the legal community. Public and private efforts to incorporate nature into business decisions are fast moving, significant, and have gathered very little scholarly attention. Moving fast, though, is not enough. You also need to be heading toward the right place. The Essay's second contribution is to highlight the challenges these initiatives face. Ultimately, we recommend a combination of top-down and bottom-up approaches.

We endorse corporations improving measurement and reporting of their dependency and impacts on nature. But following the climate playbook too closely raises concerns and may even prove counterproductive. Put simply, measuring a company's emissions as tons of carbon dioxide equivalent is relatively straightforward but measuring a company's impact on natural capital and ecosystem services is fundamentally different and much more difficult. And even if these impacts can be measured in practice, what constitutes "success"? Failure to take these challenges seriously risks what we call "performative compliance" and potential backlash.

This Essay begins descriptively, offering a brief review of natural capital and ecosystem services to explain why business firms can and should care about them. We then show that recent initiatives to address nature both in public law and private governance have been proceeding in close parallel with the more familiar public and private initiatives to address climate change. While following the climate playbook for natural capital measurement and reporting is an important first step, significant differences between natural capital and climate change abound, and these differences raise concerns about how to determine priorities, how to measure success, and how to resolve trade-offs. We explain why the emergence of natural

[14] European Union, Corporate Sustainability Reporting. https://finance.ec.europa.eu/capital-markets-union-and-financial-markets/company-reporting-and-auditing/company-reporting/corporate-sustainability-reporting_en.

[15] Taskforce on Nature-related Financial Disclosures. https://tnfd.global/.

capital reporting regimes raises a longstanding question in environmental governance: who should decide?

While the bottom-up approach of climate reporting yields important information, we argue that a combination of bottom-up and top-down approaches is needed to ensure that we truly incorporate nature into our decision making.

I. Why Should Firms Care About Nature?

A. Natural Capital and Ecosystem Services

When we bite into a juicy apple and pause to think about where it came from, once we look beyond the store where it was purchased, the trucking company that moved it, and the orchard where it was grown, we may think of soil and water. But it is unlikely we also consider the natural pollinators that fertilized the apple blossom so the fruit can set, the predators that ate herbivorous insects, or the microbes that renewed the soil. When we drink a cold mug of beer, we may think of the local reservoir that provided the water, but the real source of the water quality lies many miles upstream in the wooded watershed that filters and cleans the water as it flows downhill. And when we take medication or seek treatment for different health conditions, we rarely consider the biodiverse microbes and plants that are the source of many modern medicines.

We are accustomed to talking about different sources of wealth in our economy. There is financial capital, of course, human capital, built capital, and social capital. We often fail, though, to consider *natural capital*. Defined as the "stocks of natural assets which include geology, soil, air, water and all living things," natural capital may well be the most essential of all forms of wealth.[16] The benefits that flow from this capital make human life possible.

Created by the interactions of living organisms with their environment, *ecosystem services* not only provide the goods we depend on for food, building materials, and medicines but also the processes that purify air and water, detoxify and decompose waste, renew soil fertility, regulate climate, mitigate droughts and floods, control pests, and pollinate

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[16] Convention on Biological Diversity, Natural Capital, https://www.cbd.int/business/projects/natcap.shtml. To be sure, some critique the notion that nature should be considered in economic terms, see, e.g., *Nature is Priceless, Which is Why Turning Into 'Natural Capital' is Wrong*, The Conversation (Sept. 21, 2016), but we do not wade into those discussions, and use the terminology that is used by major public and private initiatives.

vegetation.[17] The suite of ecosystem services produced by natural capital quite literally underpins human society.[18]

One cannot begin to understand flood control, for example, without realizing the impact that widespread wetland destruction has had on the ecosystem service of water retention and flood buffering;[19] nor can one understand water quality without recognizing how development in forested watersheds has degraded the service of water purification.[20]

As the high-level study undertaken by the UK government, known as the Dasgupta Review, explained, the human economy is critically dependent on the natural economy:

> Many goods and services that are provided by watersheds are necessities for local inhabitants (forest dwellers, downstream farmers, fishermen), some are sources of revenue for commercial firms (timber companies), while others are luxuries for outsiders (eco-tourists). Some benefits accrue to nationals (agricultural crops), while others spill over across national boundaries (carbon sequestration). Watersheds offer joint products (protection of biodiversity, flood control, household goods), but they also offer services that compete against one another (commercial timber, agricultural land, biodiversity).[21]

The foundational report, the Millennium Ecosystem Assessment, categorized the benefits from ecosystem services that flow to human

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[17] *See generally,* NATURE'S SERVICES: SOCIETAL DEPENDENCE ON NATURAL ECOSYSTEMS 3 (Gretchen Daily ed., 1997) [hereinafter Daily].

[18] *See id*.

[19] *See, e.g.,* The Trust for Public Land, Building Green Infrastructure: Land Conservation as a Watershed Protection Strategy 13 (2000); Norman Myers, *The World's Forests and Their Ecosystem Services*, *in* Nature's Services, at 215, 215–17.

[20] *See, e.g.,* THE TRUST FOR PUBLIC LAND, AN OUNCE OF PREVENTION: LAND CONSERVATION AND THE PROTECTION OF CONNECTICUT'S WATER QUALITY 5–8 (1998); Katherine C. Ewel, *Water Quality Improvement by Wetlands*, *in* Daily, *supra note* 12 at 329, 334–36.

[21] HM Treasury, THE ECONOMICS OF BIODIVERSITY: THE DASGUPTA REVIEW 46 (2021). See also major prior works by Dasgupta: P.S. Dasgupta and G.M. Heal (1979), ECONOMIC THEORY AND EXHAUSTIBLE RESOURCES (Cambridge: Cambridge University Press), and P. Dasgupta: THE CONTROL OF RESOURCES (Cambridge, MA: Harvard University Press, 1982); AN INQUIRY INTO WELL-BEING AND DESTITUTION (Oxford: Clarendon Press, 1993); HUMAN WELL-BEING AND THE NATURAL ENVIRONMENT (Oxford: Oxford University Press, 2004); ECONOMICS: A VERY SHORT INTRODUCTION (Oxford: Oxford University Press, 2007); and TIME AND THE GENERATIONS: POPULATION ETHICS FOR A DIMINISHING PLANET (New York, NY: Columbia University Press, 2019).

populations as falling into four streams: (1) provisioning services include commodities such as food, wood, fiber, and water; (2) regulating services moderate or control environmental conditions, such as flood control by wetlands, water purification by aquifers, and carbon sequestration by forests; (3) cultural services include recreation, education, and aesthetics; and (4) supporting services, such as nutrient cycling, soil formation, and primary production, make the previous three service streams possible.[22]

Provisioning services such as timber or fruit can be sold in markets and price mechanisms encourage their careful management. But these are the exception. Regulating services (such as water purification, pollination, and flood protection) behave like public goods, meaning that no one can be excluded from enjoying their benefits (they are "non-excludable"), and the enjoyment of these goods by one person does not necessarily reduce their value (they are "non-rivalrous").[23] We all benefit from carbon sequestration but there is no simple price mechanism that reflects abundance or scarcity. Not surprisingly, most forests are managed for timber or as orchards, not to combat climate change or to provide habitat for local species. These public goods qualities mean that ecosystem services largely operate outside markets and are ignored by consumers and businesses alike.

B. THE BUSINESS CASE FOR INCORPORATING NATURE

Environmentalists certainly care about degradation of the natural environment—but why should business firms care? There is, as in the climate context, a strong case for business leaders to care about their dependencies and their impact on natural capital. In some cases, the relationship may be even more immediate and salient than for climate change.

Firms depend upon natural capital both directly and in their supply chains and for the stability of their businesses. If Coca-Cola cannot directly access sufficient clean water to make its beverages, it cannot continue to make a profit.[24] Indirectly, Coca-Cola's suppliers rely upon numerous ecosystem services to grow the ingredients in the beverage's secret formula,

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[22] MILLENIUM ECOSYSTEM ASSESSMENT, ECOSYSTEMS AND HUMAN WELL-BEING (2005).

[23] Robert Costanza et al., Changes in the Global Value of Ecosystem Services, 26 GLOBAL ENVTL. CHANGE 152, 154 (2014) (arguing that many ecosystem services behave like public goods).

[24] The Coca-Cola Company, Water Stewardship, https://www.coca-colacompany.com/sustainability/water-stewardship.

such as sugar beets and vanilla. Other examples of such dependencies are evident in many industries that rely upon ecosystem goods for their continued existence, such as the agriculture and consumer goods industries.

But the reliance is broader. S&P Global recently published data demonstrating that the world's largest companies depend substantially upon less obvious provisioning and regulating services such as "mass stabilization and erosion control" (firms in communication services, financials, information technology and materials); "flood and storm protection" (firms in consumer discretionary, consumer staples, energy and industrials); "bio-remediation" (healthcare and real estate businesses); and "climate regulation" (utilities).[25]

The same firms that depend upon natural capital may also contribute to its impairment. Industries use land for their operations, release emissions into the air and the water, in many cases in "pristine and significant ecosystems globally."[26] Take the Coca-Cola example—if Coca-Cola uses up groundwater in a stressed watershed to make its products, then not only will there be impact on habitat for local fauna and on the health of local flora, but there may not be enough water to bottle its products in the following year. If almond farmers' use of pesticides impairs the health of bee colonies, there may not be enough healthy bees to pollinate the crops in the next season. In some cases, the relationship may be more attenuated or indirect where the actions of one industry (say, the palm oil industry which clears forests in places like Indonesia to plant palm trees)[27] may degrade the biodiversity upon which the pharmaceutical industry depends.

Finally, there is the reputational risk that can drive business leaders to care more about their impact and dependencies on natural capital.[28]

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[25] S&P Global Sustainable1, *How the World's Largest Companies Depend on Nature and Biodiversity* (May 10, 2023), https://www.spglobal.com/esg/insights/featured/special-editorial/how-the-world-s-largest-companies-depend-on-nature-and-biodiversity?utm_medium=website&utm_source=ClimateAction&utm_campaign=SIFNA (finding that "85% of the world's largest companies that make up S&P Global 1200 have a significant dependency on nature across their direct operation").

[26] *Id*. (noting that "S&P Global 1200 companies used an estimated 22 million hectares of land for their direct operations in 2021. . . . Expressed as an ecosystem footprint, this is equivalent to fully degrading 2.2 million hectares of the most pristine and significant ecosystems globally").

[27] Yosuke Shigetomi, Yuichi Ishimura & Yuki Yamamoto, *Trends in Global Dependency on the Indonesian Palm Oil and Resultant Environmental Impacts*, 10 Scientific Reports 20624 (2020) (highlighting land-use changes, deforestation and biodiversity loss).

[28] S&P Global Sustainable1, *supra* note 20, (noting that almost half of major global firms operate in "Key Biodiversity Areas" with about 70% of companies in the S&P Global 1200

Investors may see high impact and dependencies as a source of financial risk.[29] Consumers may not want to associate their identities with brands that are harming the orangutans in Sumatra for palm oil or clearing forests in the Amazon for beef.[30]

While these relationships between business and nature have existed as a factual matter for a long time—neither Coca Cola's dependence on a sufficient supply of clean water nor almond farmers' need for pollinators arose for the first time this decade—the fact that both public regulators and private actors are now shining a spotlight on these issues is a recent development around the globe.

II. FOLLOWING THE PLAYBOOKS

It's worth noting that the business case for companies to care about nature as a bottom-line issue closely tracks the case for caring about climate as a bottom-line issue. Some firms depend upon a stable climate, whether a ski resort owner and farmers harmed by drought or a fishing community harmed by fish stocks moving farther away as the waters warm. Equally, businesses can worsen climate change through land use activities such as deforestation, depletion of soil nutrients, or fossil fuel emissions.

Given these similarities, and the fact that both climate stability and natural capital are public goods, it should not be surprising that advocates for conserving natural capital have looked to the strategies employed in the climate space. Indeed, copying playbooks to address global environmental problems has already happened. Protection of the ozone layer is universally seen as the greatest triumph of international environmental law and it served as the model for the first two decades of international climate policy.[31]

Concerned by the hypothesis that chlorofluorocarbons from consumer aerosols, refrigerants, and other industrial uses were depleting the planet's ozone layer, in 1979 the United Nations Environment Program

operating in "protected areas" such that disclosures are required under EU law (SFDR) and the TNFD, which may drive reputational risk concerns).

[29] *See e.g.*, BlackRock, *Our Approach to Engagement on Natural Capital* (2024) (noting that the major investment firm considers risks related to natural capital as relevant to a firm's value).

[30] Americus Reed II, Mark R. Forehand, Stefano Puntoni & Luk Warlop, *Identity-Based Consumer Behavior*, 29 Int'l J. Rsch. Mktg. 310, 310 (2012).

[31] The history in the following paragraphs is drawn from DAVID HUNTER, JAMES SALZMAN, DURWOOD ZAELKE, INTERNATIONAL ENVIRONMENTAL LAW AND POLICY 522 et seq. (6th ed. 2022).

(UNEP) commissioned a study of the science of ozone depletion, known as the Ozone Trends Panel. Based on the review's findings, UNEP commenced negotiations on a framework convention in 1981, which led to adoption of the Vienna Convention on Ozone Depleting Substances in 1985.

The Convention had few requirements beyond collection of data on the compounds' production, consumption, and trade. Upon scientific confirmation of the ozone hole a few months later, negotiations began anew, resulting in the Montreal Protocol in 1987. The first "targets and timetables" treaty, the Protocol established reduction targets for all parties. Subsequent conferences of the parties led to a one-way ratchet of accelerated reduction targets and the addition of new ozone-depleting compounds to regulate. By the late 1990s, it was clear that ozone depletion had been reversed and the atmospheric layer was on course for total restoration within a few decades. Victory was declared.

Widespread concern over climate change emerged just a few years after worries over ozone depletion. Given the evident success of combating ozone depletion, diplomats and scientists not surprisingly followed the same playbook for climate change. As with the Ozone Trends Panel, UNEP created the Intergovernmental Panel on Climate Change to review the state of science. Similar to the Vienna Convention in 1985, UNEP oversaw negotiation of the UN Framework Convention on Climate Change in 1992, which adopted many of the same strategies for data collection. Like the Montreal Protocol in 1987, the Kyoto Protocol in 1997 relied on a targets and timetables approach.

There are further examples one could describe, but the dynamic is clear – climate policymakers paid careful attention to and closely followed the path established by ozone policymakers.

A. NATURE FOLLOWS THE CLIMATE CHANGE PLAYBOOK

Just as climate advocates tracked ozone's policy playbook, many of the policies to incorporate consideration of natural capital into organizations' strategy and operations have closely followed the climate playbook. In some cases, the parallel is almost exact. We highlight some of the most obvious examples below.

The Intergovernmental Panel on Climate Change (IPCC)[32] and its reports provided scientists' assessment of the lessons from peer-reviewed

[32] Intergovernmental Panel on Climate Change, https://www.ipcc.ch/.

research for policy. The Millennium Ecosystem Assessment was modeled on the IPCC, charged to assess "the consequences of ecosystem change for human well-being."[33] More recently in Britain, the Stern Review on the Economics of Climate Change[34] served as the model for the Dasgupta Review on the Economics of Biodiversity.[35]

Companies have been under pressure for the past decade to make "net zero" pledges on climate. According to Net Zero Tracker, more than 1,000 companies globally have made commitments to achieve net zero emissions by 2050, as of late 2023.[36] To date, the Science Based Targets Initiatives (SBTi) has validated the targets of over 500 companies.[37] Many of these same corporations with land use impacts have faced similar pressure to announce "no net loss" pledges on nature and "net positive" commitments to mitigate the impacts of their activities.[38]

And the same playbook has been in use for companies' monitoring and disclosure of climate impacts and risks. In the United States, the most significant recent development was the Securities and Exchange Commission's final regulation, *Enhancement and Standardization of Climate-Related Disclosures*.[39] This regulation, which the SEC has announced it will no longer defend, would have required registrants to disclose material climate-related risks, information about governance and oversight of such risks by the board of directors and management, how the firm is addressing such risk as part of its overall strategy, and the targets and goals the firm has set related to climate change that are financially material.

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[33] Millenium Ecosystem Assessment, https://www.millenniumassessment.org/en/index.html.

[34] Nicholas Stern, THE ECONOMICS OF CLIMATE CHANGE: THE STERN REVIEW (Oct. 30, 2006).

[35] Dasgupta Review, *supra* note 19.

[36] Net Zero Tracker, *Net zero targets among world's largest companies double, but credibility gaps undermine progress* (June 12, 2023), Net zero targets among world's largest companies double, but credibility gaps undermine progress.

[37] SBTi, Net-zero ambition 500: companies across the globe committed to leading the science-based net-zero transformation (Nov. 17, 2023), https://sciencebasedtargets.org/blog/500-companies-net-zero-ambition.

[38] It is important to note that a number of companies have backed away from such public pledges in light of the changing political environment in the United States. *See, e.g.*, Simon Jessup, *JP Morgan Becomes Latest U.S. Lender to Quit Net-Zero Banking Alliance*, Reuters (Jan. 7, 2025).

[39] Securities and Exchange Commission, Enhancement and Standardization of Climate-related Disclosures, 89 FR 21668 (Mar. 28, 2024). We recognize that the incoming Administration will likely withdraw this regulation, but think it likely it will appear again if Democrats retake the presidency in 2028.

[40] In addition, larger registrants would have been required to disclose Scope 1 and Scope 2 emissions if material, as well as the effect of severe weather and other physical manifestations of climate change on the firm's financial statements.[41] These requirements would have been phased in over a several-year period.[42] While such disclosures are anathema to the current Administration, we do mention them here because the pendulum may swing back toward greater disclosure in the future.

The European Union has taken an even broader approach, consistent with its commitment in the European Green Deal to achieve climate neutrality by 2050 and to preserve and restore ecosystems and biodiversity among other goals.[43] While the SEC focused solely on climate-related ambitions and reporting requirements, the EU has long considered climate and natural capital as two complementary aspects of its environmental and sustainability policies. The EU has mandated some large financial firms to engage in non-financial reporting, most notably through the 2014 Non-Financial Reporting Directive, which requires the disclosure of both risks and impact on society and the environment. [44] The EU has updated, broadened and injected more specificity into these disclosure requirements in more recent rules like the Sustainable Finance Disclosure Regulation, which requires financial advisers and financial market participants to take sustainability-related risks into account in decision making, and to disclose any material risks or explain why no risk is material.[45]

In 2022, the EU adopted the Corporate Sustainability Reporting Directive (CSRD), which broadened the scope of firms needing to report on

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[40] *See supra* note 4.

[41] *Id.*

[42] *Id.*

[43] https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en. Briefing, Implementation Appraisal, Non-Financial Reporting, https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/654213/EPRS_BRI(2021)654213_EN.pdf.

[44] Directive 2014/95/EU of the European Parliament and of the Council of 22 October 2014 amending Directive 2013/34/EU as regards disclosure of non-financial and diversity information by certain large undertakings and groups, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014L0095&from=EN.

[45] The SFDR speaks broadly about the environment, arguably encompassing both emissions and natural capital, but not specifying natural capital as such. Sustainability-related disclosure in the financial services sector. https://finance.ec.europa.eu/sustainable-finance/disclosures/sustainability-related-disclosure-financial-services-sector_en

sustainability issues.[46] The CSRD makes clear that both climate and natural capital are overarching goals for the EU:

> The Green Deal is the new growth strategy of the Union. It aims to transform the Union into a modern, resource-efficient and competitive economy with no net emissions of greenhouse gases (GHG) by 2050. It also aims to protect, conserve and enhance the Union's natural capital, and protect the health and well-being of Union citizens from environment-related risks and impacts.[47]

Finally, in 2024, the EU adopted the European Sustainability Reporting Standards (ESRS), which lay out the specific requirements for firms to report on risks, impacts, and opportunities encompassing both climate and natural capital.[48] Covered companies must disclose not only risks and opportunities to the firm related to biodiversity and ecosystems but also their impact on biodiversity and ecosystems, as well as plans to adapt strategies to mitigate risks and to align with "planetary boundaries" and goals of no net loss by 2030, net gain from 2030, and full recovery by 2050, as well as alignment with the EU Biodiversity Strategy for 2030.[49] The fact that these requirements remain active in the EU is significant as so many U.S. firms operate globally, and thus are subject to the EU rules.

Private initiatives for natural capital disclosure and reporting have also followed the climate playbook. The Task Force on Climate-related Financial Disclosures (TCFD)—the most widely adopted framework for disclosing climate impacts and risks in regulatory filings[50]—served as the

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[46] Directive (EU) 2022/2464 of the European Parliament and of the Council of 14 December 2022 amending Regulation (EU) No 537/2014, Directive 2004/109/EC, Directive 2006/43/EC and Directive 2013/34/EU, as regards corporate sustainability reporting.

[47] CSRD, recitals par. 1.

[48] https://finance.ec.europa.eu/news/commission-adopts-european-sustainability-reporting-standards-2023-07-31_en. The ESRS was adopted pursuant to delegated authority under the Corporate Sustainability Reporting Directive (CSRD). There is also a standard, ESRS E3, focusing specifically on water and marine resources.

[49] ESRS E4-1 (disclosing transition plans); E4-2 (identifying material risks, opportunities, and impacts as well as politics to handle risks and opportunties); ESRS E4-3 (identifying resources dedicated to addressing risks); ESRS E4-4 (reporting targets and objectives, timelines, milestones); ESRS E4-5 (identifying impact metrics); ESRS E4-5 (identifying financial consequences of risks, opportunities, and impacts).

[50] In 2023, the TCFD disbanded, having "fulfilled its remit" by publishing its framework, and asked the IFRS Foundation to handle monitoring of climate-related disclosures by business firms moving forward. TCFD, Important Message-Please Read, https://www.fsb-tcfd.org/ (2023).

model for the Taskforce on Nature-based Financial Disclosures (TNFD), which aims to provide a similar framework for natural capital.[51]

In 2015, at the request of G20 Finance Ministers and Central Bank Governors, the Financial Stability Board (an international body that "monitors and makes recommendations about the global financial system")[52] created the TCFD to better align global reporting on financially material climate-related information.[53] The members of the Task Force included "industry experts from various organizations, including large banks, insurance companies, asset managers, pension funds, large non-financial companies, accounting and consulting firms, and credit rating agencies," and was Chaired by Michael R. Bloomberg, the U.N. Special Envoy on Climate Ambition and Solutions.[54] In 2017, the TCFD published a framework for disclosure, the purpose of which was to guide firms to make more robust disclosures in public regulatory filings (such as 10-k disclosures in the United States) in four areas: Governance, Strategy, Risk Management, and Metrics and Targets.[55] The framework contained 11 specific recommendations for disclosure, ranging from describing the board's or management's oversight of climate-related risks and opportunities, to the "climate-related risks and opportunities the organization has identified over the short, medium, and long term," and disclosure of any scenario analysis the firm has undertaken.[56]

The TNFD launched officially in June 2021 with the mission to provide "investors and other capital providers material information to better manage risk and make capital allocation decisions."[57] More than 400 organizations ("adopters"), ranging from manufacturers like Volvo and Ricoh, to health care firms like AstraZeneca and GSK, to commercial services firms like PwC and EY Global, to financial institutions and asset managers like AXA, Bank of America, Commerzbank AG, and the London

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[51] Taskforce on Nature-related Financial Disclosures (TNFD), About Us, https://tnfd.global/about/.

[52] https://www.fsb.org/about/

[53] TNFD, About Us, https://tnfd.global/about/.

[54] https://www.fsb-tcfd.org/about/#task-force-members.

[55] *Id.*

[56] *Id.*

[57] https://tnfd.global/about/why-nature-matters/.

Stock Exchange Group, and have committed to make disclosures aligned with the TNFD starting in 2024 or 2025.[58]

Ultimately, its goal is to "shift the flow of global capital to more positive outcomes for nature and society."[59] Specifically, Target 15 of the GBF directs national signatories to take policy measures to ensure that business firms "monitor, assess, and transparently disclose their risks, dependencies, and impacts on biodiversity," in order to "progressively reduce negative impacts on biodiversity, increase positive impacts, reduce biodiversity-related risks to business and financial institutions, and promote actions to ensure sustainable patterns of production."[60]

Each of these goals requires a clear understanding of how firms are dependent on nature, how they impact nature, and how they assess and manage risks and opportunities arising out of their relationship with nature. Thus, in September 2023, the TNFD published its 14 disclosure recommendations as well as additional guidance for firms' financial disclosures, based on the same four pillars as the TCFD: Governance, Strategy, Risk and Impact Management, and Metrics and Targets.[61] Importantly, the TNFD framework is not mandatory; it simply provides guidance to firms on how best to disclose these impacts and risks in financial statements if firms voluntarily choose to take on this challenge.

To make this concrete, consider how a bank would comply with these disclosure guidelines.

A recent report by Deloitte suggests that banks in the United States have more than $1.7 trillion in loan exposure to "sectors facing potential natural capital loss."[62] A bank's direct impacts on natural capital might be small—for example, significant water use or a headquarters adjacent to protected habitat. In contrast, a bank's loan portfolio will likely have much greater exposure to natural capital risk and a significant impact on natural

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[58] TNFD, TNFD Adoption Now Over 400 Organisations and New Sector Guidance Released (June 28, 2024), https://tnfd.global/tnfd-adoption-now-over-400-organisations-and-new-sector-guidance-released/.

[59] https://tnfd.global/about/#mission.

[60] https://www.cbd.int/gbf/targets GBF Target 15

[61] Recommendations of the Taskforce on Nature-related Financial Disclosures (Sept. 2023), https://tnfd.global/publication/recommendations-of-the-taskforce-on-nature-related-financial-disclosures/.

[62] Deloitte Center for Financial Services, How Banks Can Help Achieve Nature-Positive Outcomes and Preserve Biodiversity (Feb. 4, 2024), https://www2.deloitte.com/us/en/insights/industry/financial-services/sustainable-banking-for-nature-positive-outcomes.html/#risks.

capital. Imagine a bank issuing loans to support major infrastructure projects like the construction of pipelines, utility-scale power generation infrastructure, or critical mineral exploration and extraction. These projects may affect or destroy local ecosystems and habitats, pollute local waterways, and injure wildlife. Similarly, many industries including agriculture, personal care products, and pharmaceuticals that depend upon banks and other financial companies for financing are dependent on nature indirectly through their supply chains. Loss of access to natural capital may subject these portfolio companies to increasing levels of risk and default, posing financially material risk to the bank's or other financial company's balance sheet.

In each case, if the bank were operating in the EU and subject to the CSRD, it would be required to calculate and disclose the magnitude of such risks. In the United States, the SEC's final climate rule would mandate only the climate-risk related disclosures, not those regarding the banks' portfolio companies' impact on natural capital; yet even this more limited rule has been stayed and is likely to be reversed by the Trump Administration. In contrast, the TNFD provides a voluntary framework for banks to disclose all or a subset of such risks and impacts in financial statements.

There are other examples of nonstate organizations creating nature reporting initiatives based on their climate work. The CDP—formerly the Carbon Disclosure Project—which represents trillions of dollars of investor capital and seeks information disclosure about business impacts on climate, changed its name to remove "Carbon" and expanded its focus from purely climate-related disclosures to a broader set of nature-related disclosures including water and forest impacts.[63] Likewise, many of the organizations behind the creation of the Science Based Targets initiative,[64] which has long been a leader in helping corporations to set net zero targets in line with the best science to reduce greenhouse gas emissions, have now founded the Science Based Targets Network, which aims to promote science-based targets for nature.[65]

III. HOW IS NATURE DIFFERENT?

[63] CDP, About Us Why 'CDP'?, https://www.cdp.net/en/info/about-us.

[64] https://sciencebasedtargets.org/about-us/sbtn.

[65] https://sciencebasedtargetsnetwork.org/companies/why-set-sbts/.

As a general strategy, following the climate playbook for natural capital makes good sense. Business firms both affect and are dependent upon the stability of the climate and the services provided by natural capital. In the case of forests, for example, they are deeply intertwined. The loss of forest means not only lost habitat and biodiversity (natural capital) but also lost carbon sequestration (climate change). Climate stabilization is one of the most essential ecosystem services.

Yet there are significant differences between nature and climate, and *these matter for monitoring and reporting*. Specifically, companies' impacts and dependencies upon nature vary across time, type, and space.[66]

At the most basic level of *space*, for example, carbon emissions are global pollutants, and they are fungible regardless of where they are emitted. One ton of CO_2-equivalent emissions will have the same impact whether emitted in Cairo, Illinois, or Cairo, Egypt. In contrast, the relationship between business and nature is far more local. When a firm operates in a specific watershed, its actions may affect salinity, levels of pollution or suspended solids, temperature, and water scarcity, but have absolutely no impact on the adjacent watershed and the ecosystem services it provides. That is a strong contrast to a firm's climate impacts, where a firm can reduce its carbon emissions at a business unit in one location while they remain stubbornly high at another, yet still result in reduced climate impact. One can extrapolate to other cases—harming one bee colony while saving another may result in no net loss globally, but still harm the local colony and the local beneficiaries of its pollination. Finally, it is worth noting that some ecosystems are enormous—like the Amazon rainforest—while others are very small, like a coastal coral reef or "village ponds" in the UK.[67] Put simply, it doesn't matter where greenhouse gases are emitted, while location is critical to loss of natural capital.

Natural systems also raise non-fungibilities of *type*. While each greenhouse gas has a different global warming potential and survives in the atmosphere for a different amount of time, there is a standard unit of measure that scientists have developed as a currency for emissions: carbon dioxide equivalent (CO_{2e}). Regardless of whether emissions are methane or hydrofluorocarbons, their impact on the climate can be expressed in this standard unit of measure. Natural capital, by contrast, is far more varied than

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[66] James Salzman & J.B. Ruhl, *Currencies and the Commodification of Environmental Law*, 53 STANFORD L. REV. 607 (2000).

[67] Dasgupta Rev. at 54.

the six primary greenhouse gases and *there is no standard unit to measure impact.*

To put it plainly, preserving one acre of wetland in New Orleans is not comparable to preserving one acre of prairie in the Great Plains. Ecosystems are complex, multifaceted and interrelated. In many cases a single ecosystem, for example a wetland, can provide multiple services, such as water filtration, habitat, erosion control and stormwater runoff protection. And while some economists have recently made efforts to generate a standard metric of "biodiversity risk,"[68] it is not clear that such an effort will bear fruit given the diversity of natural systems.

To make it even more complicated, the Dasgupta Review highlights how some ecosystems are themselves

> highly diverse, such as tropical rainforests, while others have low diversity such as polar ecosystems. But the latter hold ice sheets, whereas the former do not. Protecting a million square miles of tropical rainforest has different consequences from protecting the same area of a polar landscape.[69]

Because it simply is not feasible to generate a single metric for all natural capital, it becomes necessary to disaggregate along different forms of natural capital (and in different locations). The Dasgupta Review identifies just a few of the many metrics for different forms of natural capital, such as "genetic or species diversity, count, traits, biomass, carbon sequestration," among others.[70] This could not be farther than the single metric of CO_{2e}.

Finally, natural capital raises important non-fungibilities of *time*. The time it takes to regenerate a bee colony or the lifecycle of a specific plant may be vastly different from the time horizon to regenerate an old-growth forest. Climate change impacts tend to have long time horizons, while those in the natural capital space are far more varied.

IV. SO WHAT?

[68] Giglio et al.

[69] Dasgupta Rev. at 52.

[70] Dasgupta Rev. at 78-79. There are, however, ongoing efforts to generate a common metric. See Dasgupta Rev. at 79 (highlighting the efforts of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES).

We have shown that natural capital policy development for both public and private governance has closely followed the climate playbook. The same close tracking is now taking place with monitoring and reporting requirements. This section examines whether this is the optimal approach and offers some important questions that remain unanswered. Ultimately, we think that while private disclosure "bottom up" initiatives like the TNFD have an important role to play in increasing the salience of this issue—especially in the face of significant public law retrenchment—public actors have an important "top down" role to play as well.

When there is a single metric that exemplifies harm—such as metric tons of CO_{2e}—a linear reduction provides a clear goal and private actors can make choices about how best to reduce emissions consistent with their business strategy and goals. When multiple variables are involved—and they are not fungible as in the case of natural capital—it may be *inappropriate* to leave questions of how to make tradeoffs among them, or how to define success to the private sector alone. We therefore conclude with our view that both public and private actors need to reassess their respective roles in this space.

We take this issue seriously because of a lesson from ozone. We halted our story of how climate policy closely followed the ozone playbook with the adoption of the Kyoto Protocol in 1997, the climate treaty that was closely modeled on the Montreal Protocol of 1987. Both adopted a top-down, "targets and timetables" strategy.

In retrospect, this proved a mistake. Over time, the climate community came to understand that, although superficially similar, ozone and climate were actually very different problems. The harms to individuals from ozone depletion were short term and obvious. Not so with climate. Combating ozone depletion required regulating a small number of compounds produced by a small number of manufacturers who could switch over to replacements at low cost. Climate change, by contrast, required regulating fossil fuels, ubiquitous in the global economy, with no easily available or affordable alternatives at hand. The distinctions between these two cases meant that following the ozone playbook too closely—without acknowledging these important differences—led to adoption of a regulatory top-down approach in Kyoto in 1997 that was later rejected by the United States, which never joined the Protocol. It took until the Paris Agreement in 2015 with a bottom-up decentralized strategy for the United States to sign on.

Climate has been and remains a wicked problem,[71] to be sure, but following the ozone model arguably resulted in two decades pursuing a fruitless policy approach that could have started from the bottom-up much earlier.[72] In this section, we question whether modeling natural capital monitoring and reporting on climate risks a similar mistake.

At the outset, it is worth emphasizing that there are benefits to the recent public and private efforts to make firms assess their nature-based risks, opportunities, and impacts. As the saying goes, "You can only manage what you measure." Risk management strategies based on accurate assessments of impacts and vulnerabilities will be more effective in minimizing exposure to climate and nature risks.

That said, some types of risks and impacts related to natural capital are easier and more straightforward to measure than others. For example, firms may straightforwardly track their water consumption, which not only reflects their dependence on water, but potentially the risks that may arise if the firm lacks access to clean water. In contrast, it may be a far more complicated task to measure a firm's impact on pollinators, given the many confounding factors (pesticide use on crops, viruses circulating among bee colonies, more extreme temperatures or wet weather events, for example) that may contribute to negative impacts on those communities. This can create perverse incentives.

Consider the old joke about a person walking one night who comes upon a man on his hands and knees under a streetlamp in a park. The walker asks the man why he is on the ground, and the man replies that he is searching for his keys. The walker joins him in searching and asks, a few minutes later, "where exactly did you lose them?" The person points to an area in the dark 20 yards away. Surprised, the walker says, "so why aren't you looking over there?" The man quickly replies, "because the light is better over here."

One concern we have is whether firms may focus on where the light is shining—on those metrics that are easier and more straightforward to measure—at the expense of those that are more challenging, in the shadows, so to speak, but perhaps more salient. For example, it is no doubt easier to disclose data on water use, which is generally measurable, than data on a

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[71] Richard J. Lazarus, *Super Wicked Problems and Climate Change: Restraining the Present to Liberate the Future*, 94 CORNELL L. REV. 1153-1234 (2009).

[72] We are not, of course, arguing that an earlier bottom-up strategy would have solved climate change. Rather, we lost 18 years where the international community's focus was on developing top-down approaches rather than dedicating that creativity and resources to direct support and development of more bottom-up initiatives.

bank loan's impact on the health of a species living in a habitat adjacent to where the bank has underwritten an infrastructure project. This is especially true in a complex and interconnected world where there may be many factors affecting that habitat. The concern would be that firms will disclose what is easier, and seek to improve upon what is more easily measured, even if the tradeoff between water use and habitat impacts actually favors preservation of habitat. In other words, in a world of tradeoffs, the ability to calculate one factor more easily because the street lamp is shining on it may lead us to the wrong substantive balance among competing interests.

Put another way, it may be the case that what gets measured gets managed, but it is also the case that what is easiest to measure gets measured.

The streetlamp metaphor also raises the risk of backlash. We are already seeing this against financial disclosures relating to climate impacts and risks. While the EU presses ahead with both climate and nature-based disclosures, in the United States litigation has already been filed to challenge California's recent efforts to promote greater climate-related disclosures in financial filings, and the SEC has backed down entirely.[73] While we do not want either public or private actors to cave to a "heckler's veto," we do think it is worth highlighting likely criticisms of natural capital disclosures, especially given some of the complexities we have pointed out.

And apart from potential litigation, there is a risk of what we call "performative compliance," where firms simply check the boxes with boilerplate disclosures, but it is not a meaningful exercise because the findings are not incorporated into the firm's decision making process. Think back to the example of a bank measuring the nature impact of its loans. This is hard to do well, particularly when data are limited. There is a real risk of superficial compliance or (such as in jurisdictions where only voluntary frameworks like the TNFD provide guidance without mandatory rules) companies just deciding it's too difficult and ceasing their participation in voluntary programs altogether.

We also want to emphasize that there is significant value not only in measurement, but in *disclosure*. Financial institutions and insurers require information about firms in which they may invest or which they may insure

[73] Vinson & Elkins, Ongoing Legal Battle Over California's Climate-Related Disclosure Laws: District Court denies motion for Summary Judgment (Nov. 7, 2024). In the California litigation, the district court has dismissed several claims, including those under the Dormant Commerce Clause and the Supremacy Clause; however, First Amendment claims are proceeding through to discovery. See https://www.globalelr.com/2025/02/court-dismisses-portions-of-lawsuit-against-california-climate-disclosure-laws/.

to make significant underwriting and investment decisions both for individual firms and at industry-wide levels. Financial regulators need to understand systemic risks. They depend upon accurate information to inform public policy choices. Individuals need to understand whether to invest their own money. Given significant information asymmetries between firms and these third parties, efforts to promote financial disclosures both in public laws such as in the EU ESRS and private governance approaches such as the TNFD are to be lauded.

But key questions remain. Not the least among these is the extent to which some of the important choices and actions should be left to individual firms, or whether public policymakers ought to step in with a firmer hand to guide these choices. Perhaps most importantly, the question of what it means to "succeed" or "improve performance" in the natural capital space is much more complicated than in the climate context.

Climate change is straightforward—fewer emissions are better than more emissions. And arguably even a single firm can achieve "success" in reducing emissions or can net out emissions in one location with a reduction in another location. A firm can contract to purchase renewable energy to power its facilities, replace its internal-combustion engine fleet with electric vehicles and work to reduce emissions in its supply chain. Any individual action can chip away at emissions and get us closer to achieving the global target in the Paris Agreement to hold global average temperature increases to no more than 2 degrees Celsius, with an ambition of 1.5 degrees Celsius.

In some cases, "success" for natural capital impacts is likewise an easy case. A beverage company can use less water to make a single 1-liter bottle of soda or beer; a beef cattle operation can minimize its land-use footprint by not clearcutting ranchlands in the Brazilian rainforest or by clearing fewer acres. But in many other cases, how to measure success is a good deal more complicated because there is no fungible unit of measurement across different types of natural capital. So, the question arises as to what an individual firm can do to reduce its overall "natural capital footprint." With no single currency, trade-offs cannot be objectively assessed. A beverage company can reduce its water footprint by using less water to grow its sugar beets. But what if this conservation comes at the cost of greater pesticide and fertilizer use? And what if using more pesticides and fertilizers has negative consequences for the habitat and health of local pollinators? Is that "better" or "worse" for nature than before? Has this individual firm achieved "success" in achieving its targets or making progress toward them? And what are the right targets to assess this in the first place?

One way to address this concern at the level of the firm would be for these voluntary programs like TNFD to require a more detailed narrative discussion of these tradeoffs. Business law scholar Jill Fisch has advocated that firms should engage in such a narrative discussion—a "sustainability discussion and analysis"—in their annual financial reporting.[74] We build on this suggestion to argue that it may be worthwhile to require disclosure in the form of a discussion of tradeoffs across the different types of natural capital that are most salient for the firm—a "natural capital discussion and analysis."

In addition, it makes sense to focus on certain industries with the biggest impacts and dependencies on natural capital to lead the way in disclosures. For example, it may be that agriculture, food and beverage companies, or utilities may be particularly significant contributors to natural capital damage or reliant upon nature. In addition to these issues of impact, there may be varying degrees of capacity to address the problem. For example, some industries may have an easier time trying to figure out the natural footprint of their value chain, while others may have fewer tools and data at their disposal to do an adequate job.

Gaining a greater understanding of how firms are thinking about setting such targets is certainly valuable. We further think it is worth considering whether—on a more long-term or permanent basis—strategic priorities and targets that incorporate such tradeoffs are best identified and followed at the level of the firm, or whether they would be better introduced at an economy-wide level through public governance. In other words, we think the target-setting, as well as thinking more deeply about the role any individual firm can play in achieving those targets, may be better suited to public laws rather than in private environmental governance. When we think about tradeoffs, these implicate all of society, not just an individual firm: How many bats are we willing to sacrifice for the emergence of wind power? How much pesticide use should we tolerate (given its implications for land and habitat) to ensure a sufficient water supply for agricultural use? These implicate deep social values, and ought to be part of a larger conversation. Easier said than done, we understand, but we do well to keep in mind the collective consequences of individual decisions.

CONCLUSION

[74] Jill E. Fisch, *Making Sustainability Disclosure Sustainable*, 107 GEO. L.J. 923 (2019).

To return to the language of our "playbook" analogy, the ozone case largely succeeded through a top-down approach. The climate case has needed a more bottom-up approach to garner the political support necessary to move forward. We think that the case of natural capital requires both—bottom-up initiatives like TNFD to promote better information (perhaps with additional narratives about trade-offs), and more top-down involvement of governments when it comes to figuring out what our priorities should be and how to resolve those tradeoffs. These disclosure initiatives—both in the EU and voluntary frameworks like the TNFD for natural capital are nascent and moving forward. There is very limited scholarship in legal circles and not much more in economic or financial circles as to their impact, effectiveness, and implications. As the efforts to measure, disclose, and manage natural capital accumulate, it will be essential for both the private sector and the public sector to consider the implications. Most significantly, we think it is essential to address the normative questions for society of what tradeoffs we are willing to make. These questions may be too big to leave to individual firm managers alone.

This is still very early days but path dependence matters. We have just one first opportunity to begin integrating nature into business practices in a meaningful way. We must ask ourselves if we are squandering the chance by following the wrong playbook. Recognizing the key differences between climate change and natural capital is essential to getting the tradeoffs right.