



Global Survey of Nature Risk Management at Financial Firms

2024: A DISCIPLINE IN ITS INFANCY

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INTRODUCTION

Nature loss has a profound impact on the economy and is a source of significant risk for financial institutions. Moreover, nature's resilience is vital in the battle against climate change. Consequently, some regulators have already published formal guidelines for nature risk management, and nature-related risks and opportunities are now being monitored closely by the boards of directors at many firms.

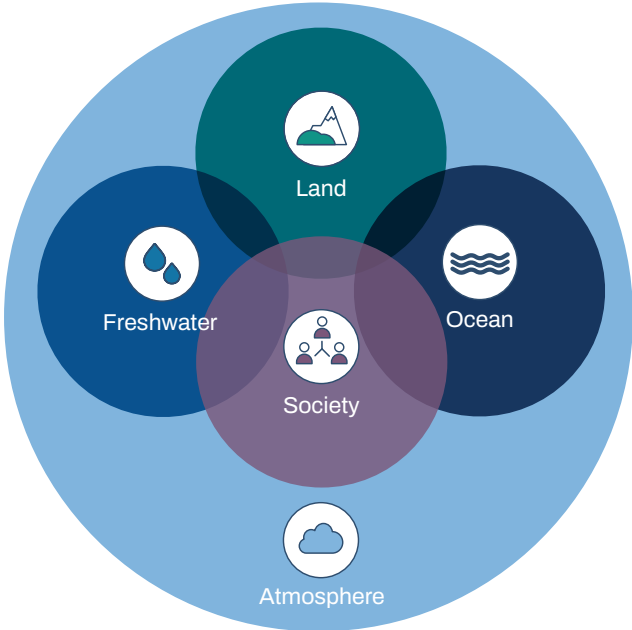
It is also true, though, that nature risk management is in its very early stages, and there is still much more work to do – particularly when it comes to quantification.

In 2023, GARP undertook its first global survey of nature risk management across financial firms. This followed four years of assessing and benchmarking firms' [climate risk management capabilities](#), during which time we witnessed an increasing level of sophistication. Although nature-related risks and opportunities are interrelated with those associated with climate change, they are distinct and of concern in their own right.

Nature refers to the natural world, and is made up of four realms: land, ocean, freshwater, and atmosphere (see Figure 1). Biodiversity is a characteristic of the natural world, referring to the variability among living organisms across these realms. It is, more specifically, the degree of the variety of life within species, between species, and of ecosystems.

The more biodiversity, the healthier and more resilient nature is. But over recent decades, we have witnessed an alarming decline in rates of biodiversity, indicating an increasing fragility in the natural world.

Figure 1 Four Realms of Nature



Source: [Taskforce on Nature-related Financial Disclosures \(TNFD\) Recommendations](#)

From a financial perspective, there are several reasons why we should care about a resilient natural world. For a start, all life and much of our economy depend on it; we derive many so-called ecosystem services from nature, such as clean water, raw materials, and medicine.

Nature is also fundamental to our ability to mitigate and adapt to climate change – for example, through the provision of carbon sinks, natural sea defenses, and the availability of fresh water. If nature’s ability to provide these services is altered, there will likely be financial repercussions.

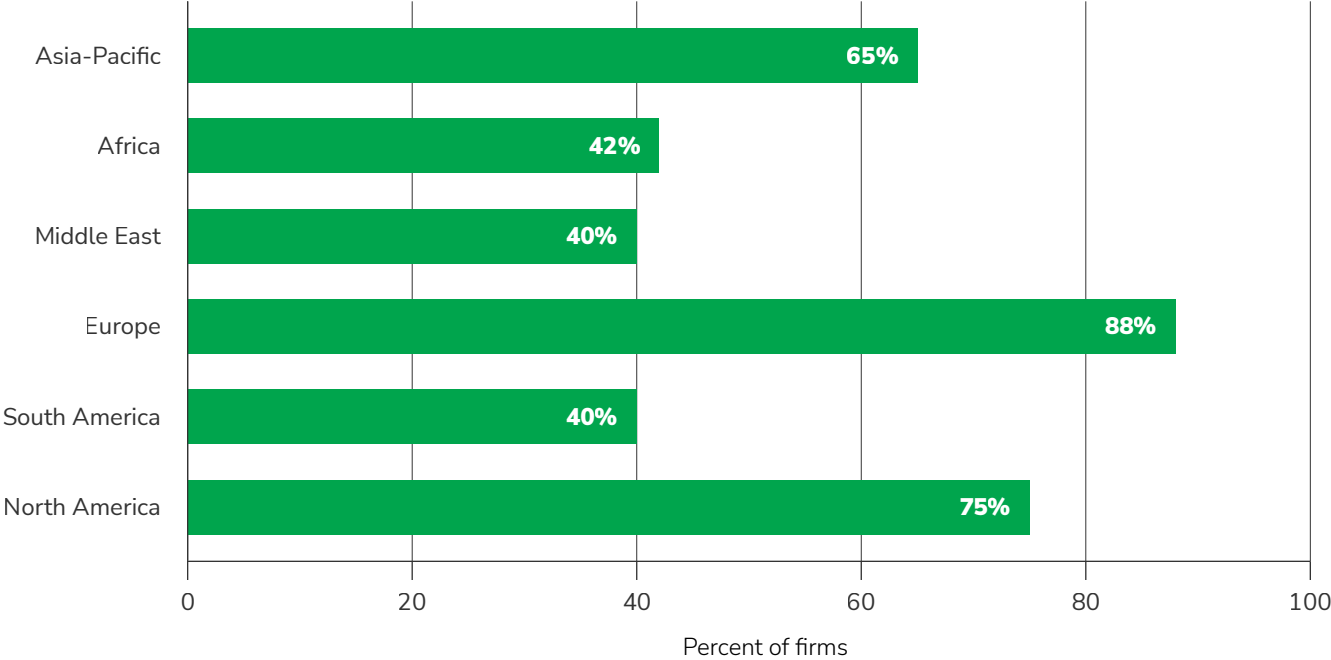
Although the measurement of these risks is in its infancy, several countries have estimated that their financial institutions are highly dependent on ecosystem services. (See GARP’s primer, [“Biodiversity Loss: An Introduction for Risk Professionals”](#), for more details.)

Financial regulators are increasingly examining financial firms’ exposure to these risks. Moreover, new disclosure frameworks are being developed, such as the recommendations of the [Taskforce on Nature-related Financial Disclosures \(TNFD\)](#). Indeed, we chose to follow the definitions and approach of the TNFD in this Survey, as it has become a popular framework and builds upon the success of the Taskforce on Climate-related Financial Disclosures framework (TCFD).

Against this backdrop, GARP has undertaken its first global survey of nature risk management across the financial system, with the intention of examining both the risks and opportunities within a financial firm's portfolios (rather than its direct operations). Furthermore, mimicking our climate risk surveys, we have used a maturity model to score and rank the participating firms on their current nature risk management capabilities across six dimensions: (1) governance; (2) strategy; (3) risk management; (4) metrics, targets, and limits; (5) scenario analysis; and (6) disclosures. This model provides a useful snapshot of current risk management practices across the financial services industry; it helps firms prioritize areas to improve upon, as well as guiding less experienced firms along their nature risk journey.

There were 48 firms in this year's Survey, comprising 37 banks, seven asset managers, and four insurers. This survey had a similar geographic reach to previous climate risk management surveys, with participating firms operating across all regions of the world (Figure 2). Collectively, these firms have around USD 33 trillion of assets on their balance sheets, manage assets of close to USD 19 trillion, and account for about USD 2.4 trillion in market capitalization.

Figure 2 Regional Spread of Firms' Operations





KEY TAKEAWAYS

There is a growing regulatory focus on nature risks.

Thirty-one percent of the firms report that their regulators have published formal expectations for nature risk management, and another 13% expect their regulators to do so.

Nearly half of the boards in our sample have oversight of nature-related risks and opportunities, with most of the remaining firms working or intending to work on this. Just 6% of firms are not planning to have board oversight of nature-related risks.

C-Level executives are accountable for nature-related risk assessments and management efforts at around two thirds of firms. The chief risk officer (CRO) is the individual most commonly named as the senior executive responsible for nature risk management. Around half of firms have the same person responsible for climate and nature-related risks.

Nature risk is, however, relatively new for many firms and levels of expertise are far lower than for climate risk. Although most have formally started looking at nature-related financial risk, just over 40% are currently investigating whether it should even be treated as a risk.

Maturity levels are relatively low with respect to firms' strategic engagement with nature. Only 25% of the firms have identified nature-related risks or opportunities, compared with over 80% of firms in our first climate-related survey in 2019. Only 8% of firms have created specific nature-related products, such as nature-linked performance bonds or nature funds.

Of all the drivers of nature loss, climate change is the most popular area focused on by firms,

followed by deforestation, water scarcity, biodiversity loss, air and water pollution, and resource exploitation. While only 35% of firms have performed a materiality assessment, another 23% have one in progress.

Just 17% of firms are using metrics, targets, or limits to assess drivers of nature-related risks, with another 13% implementing them now. Forty-six percent of firms are intending to use them, but a quarter of firms aren't yet planning on measuring these risks.

Availability of data and models are the two highest short-term concerns firms face over the next five years.

These challenges are very similar to the concerns raised by firms in our climate risk surveys.

Nature scenario analysis is not widely used. Just under 20% of firms are using scenario analysis to understand the impact of nature-related risk on their organization's portfolio or balance sheet. But a further 50% of firms are planning on doing so in the future.

Nature-risk staffing and training is on the rise. Around half of firms offer nature-risk training to some functions, with 13% of firms offering it to their entire staff. Firms also expect to hire more staff with nature risk expertise in the next two years.

Nature Complexities

There are two complexities that arise with nature that are worth highlighting.

First, since this is a very new area for many financial firms, we allowed firms to indicate their intention to work on a particular area. For example, a firm might respond that it intends to develop nature-related metrics, targets, or limits. These intentions do attract a modest scoring in the nature maturity model – contrary to the climate maturity model.

Second, climate change and nature are interrelated, which gives rise to potential confusion. Climate change is one of the drivers of nature-related risks, together with four other commonly accepted drivers: land/freshwater/ocean use change, resource exploitation, pollution, and invasive species (Figure 3).

Figure 3 Drivers of Nature Change



Source: [Taskforce on Nature-related Financial Disclosures \(TNFD\) Recommendations](#)

Many firms in our sample have achieved quite mature levels of climate risk management capabilities. But we did not want to give them credit for their climate-related work in this Survey, unless it was directly related to the impact that climate change has on nature loss.

For example, if a firm indicated that it had developed metrics on climate change for use in its risk management, it would score no points in the maturity model – unless we could be certain that these metrics were motivated by a desire to measure the impact that climate change was having as a driver of nature risks. In other words, in this Survey, we sought to isolate what firms are doing specifically for nature-related risks and opportunities.

GOVERNANCE

Effective risk management in any domain begins with engagement at the highest level of an organization – namely, the board and senior management. We asked firms about the role that their boards play in overseeing nature-related issues, as well as how senior management measures and manages those issues.

Nearly half of the boards (46%) in our sample have oversight of nature-related risks and opportunities, with most of the remaining firms (48%) working or intending to work on this, as Figure 4 shows. Just 6% of firms are not planning on having board oversight of nature-related risks.

Figure 4 Does the Board Have Oversight of Nature-Related Risks and Opportunities?

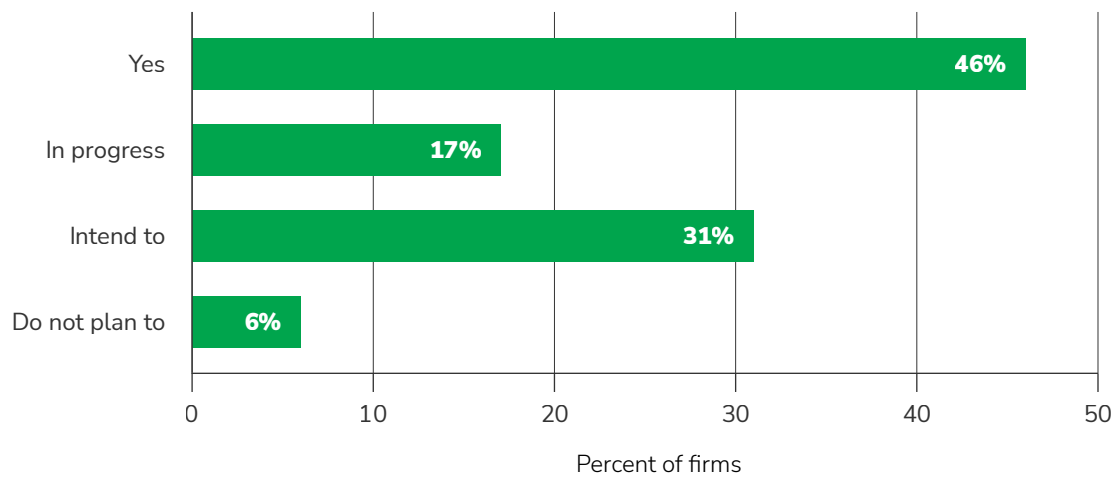
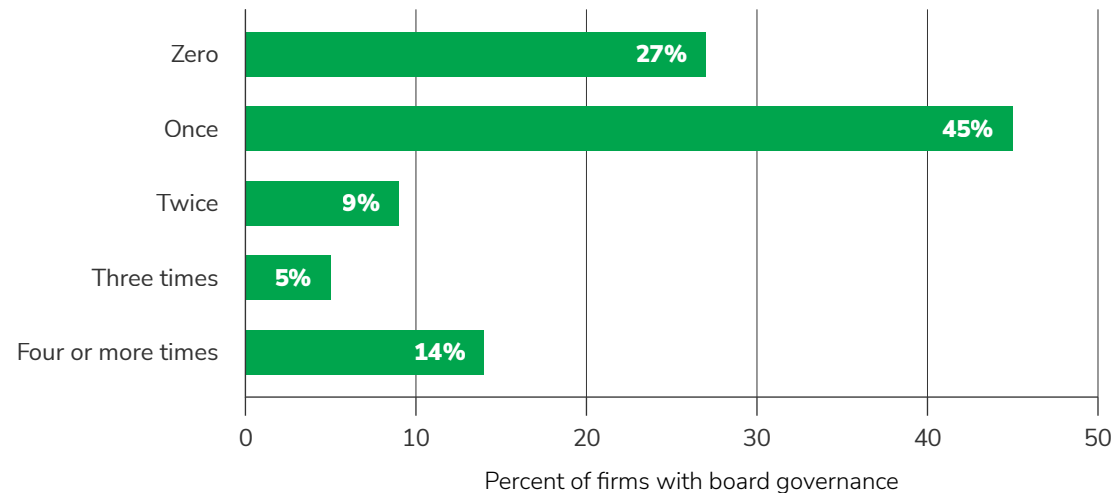


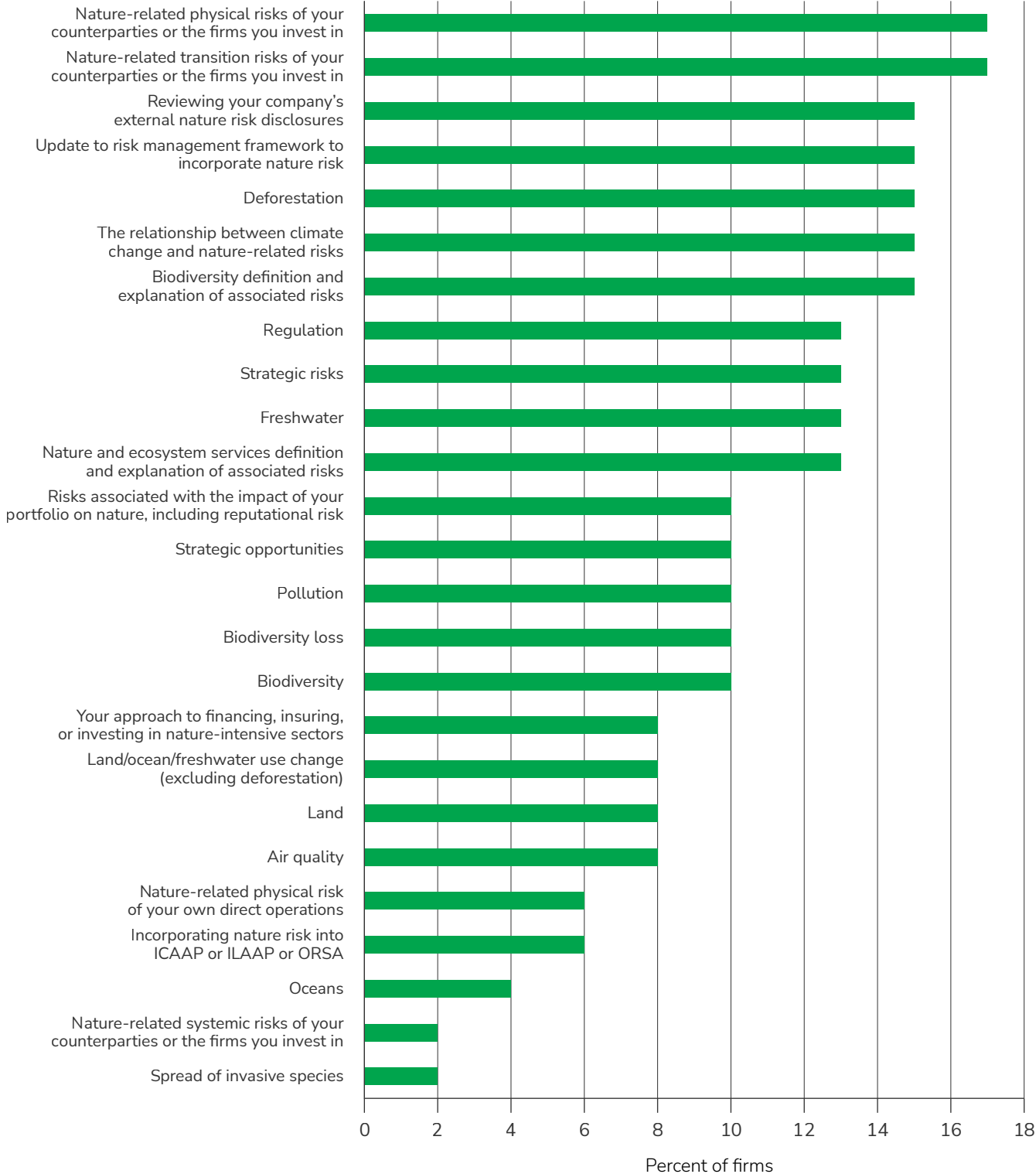
Figure 5 shows the frequency of discussion about nature risk at the firms with board oversight. Forty-five percent of these boards discussed nature risk once in the previous year – the most common frequency of discussion. (Climate issues, in comparison, are typically discussed by boards four times a year, according to our latest climate risk survey.) It is worrying, however, that over a quarter of these boards have not engaged on nature risk at all, despite having formal oversight.

Figure 5 Frequency of Board Engagement in the Last Year



Boards' discussions have covered a wide range of topics, as Figure 6 shows. The most common topic is the nature-related risks of the firms' counterparties and firms in which they invest. This is followed by a variety of subjects to better understand what nature risks are, ranging from the definition of biodiversity to ecosystem services, to drivers of nature loss (such as deforestation and pollution), to the relationship between climate change and nature-related risks.

Figure 6 Topics Discussed by Boards



In terms of the sub-board accountability, we found that C-Level executives are accountable for nature-related risk assessments and management efforts at around two-thirds of firms (see Figure 7). This is a similar result to the first year of the climate risk survey (2019), when 71% were responsible. However, unlike in climate risk, the responsibility for nature risk oversight typically falls to one member of the senior management team (40%), rather than to multiple executives (27%).

The chief risk officer (CRO) is the individual most commonly named as the senior executive responsible for nature risk management. This is followed by the head of sustainability. At banks, the CRO is generally responsible solely, but also often in conjunction with a head of sustainability. Approximately half of firms have the same person responsible for climate and nature-related risks.

Executives need to consider the best way to convey information to their boards. With such a wide range of topics to cover, dashboards are being increasingly developed to bring together decision-useful information. We asked firms about their practices and intentions in this area (see Figure 8).

Firms can choose to develop dedicated nature dashboards or embed that information within other dashboards, such as those for credit or operational risks. As Figure 8 indicates, work on dashboards is at an early stage. Just 6% of firms report that they regularly show their boards nature-related information in a dedicated dashboard and the same number embed it in other existing dashboards. (Note: One firm does both.) It was far more common for firms to indicate that they intend to work on this, with similar numbers of firms favoring developing dedicated dashboards or embedding information in other dashboards.

Figure 7 Accountability for Nature-Related Risk Assessments and Management Efforts

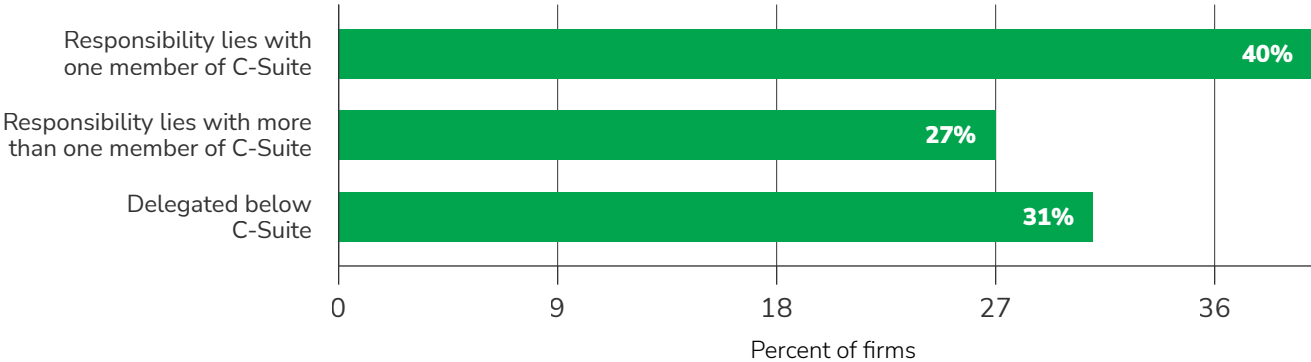
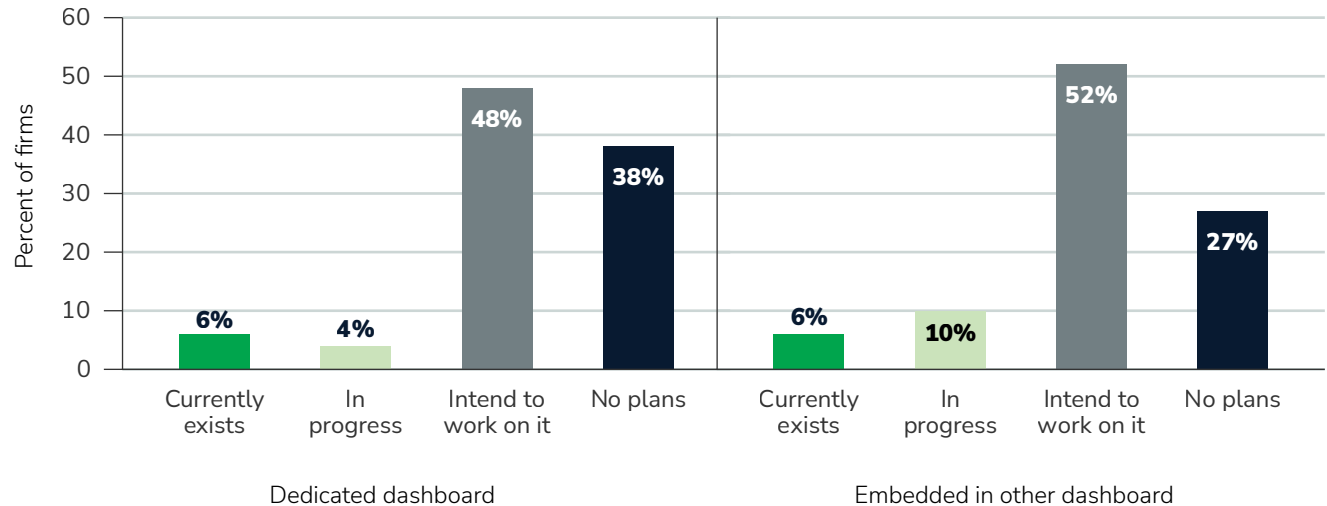


Figure 8 Use of Board-Level Nature Dashboards





STRATEGY

To manage nature-related risks and opportunities, a financial firm needs to understand the nature dependencies of the companies it lends to, invests in, or insures. Comprehension of how those companies' activities impact nature (either positively or negatively) is also required.

There are many different areas where dependencies and impacts upon nature can give rise to risks and opportunities. For example, a financial firm may have exposure to companies that are heavily dependent on natural resources in their supply chains. Alternatively, they might be operating in parts of the world that are particularly rich in biodiversity or are vulnerable to nature loss.

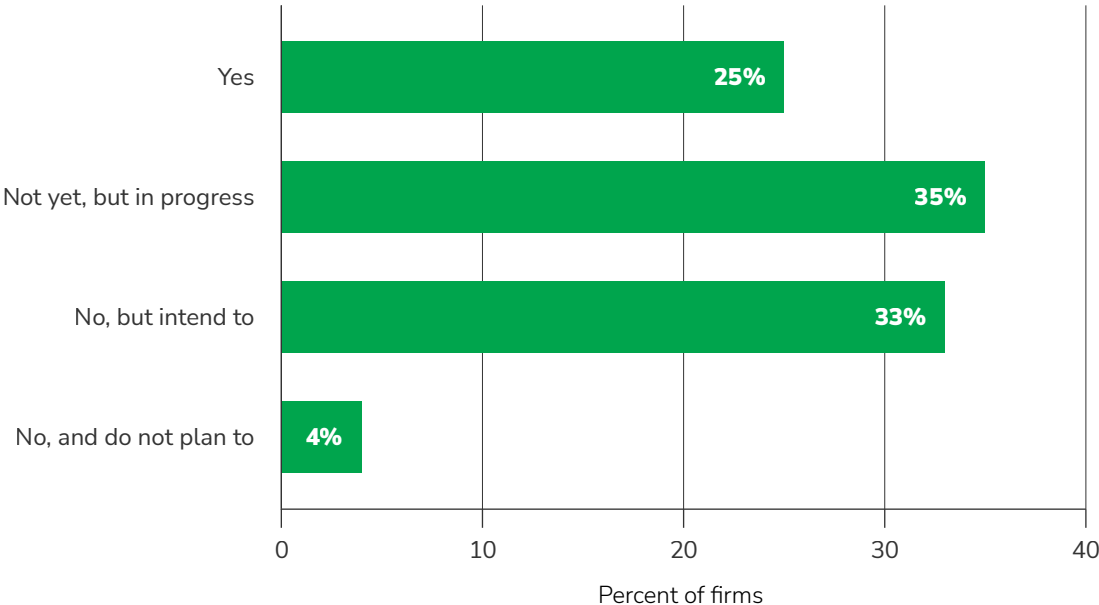
In other words, firms might be interested in the impact that nature has on their financial risk profile, or they may be motivated more by a concern about the impact on nature itself from the companies in their portfolio. These two perspectives are often referred to as double materiality.

We asked firms about their priorities and found them to be reasonably balanced in terms of the two perspectives. More than 60% of the firms prioritized their focus on nature-related risk based on their business activities, but around a third of these also prioritized one or more ecologically sensitive areas or areas of high water risk. Only 10% of the firms were focused solely on the risks associated with operating in areas that were important for biodiversity, at risk of rapid declines in biodiversity, or with high water risks.

Dependencies and impact on nature can each give rise to risks or opportunities. Overall, our Survey indicates a relatively low level of maturity when it comes to firms' strategic engagement. In our sample, only 25% of the firms have identified nature-related risks or opportunities (Figure 9), compared with over 80% of firms in our first climate-related survey in 2019. A further 35% are currently working on identifying risks or opportunities, while 33% of firms intend to assess them.

Just over 20% of firms have assessed the future impact of risks and opportunities, with the majority focusing on the next one-to-five years.

Figure 9 Have Nature-Related Risks or Opportunities Been Identified?



One way that firms can create opportunities is to introduce new nature-related products. Although we asked firms about this, it was difficult to identify products that were focused entirely on nature as opposed to climate change. For example, the most popular responses were firms offering transition finance and green funds.

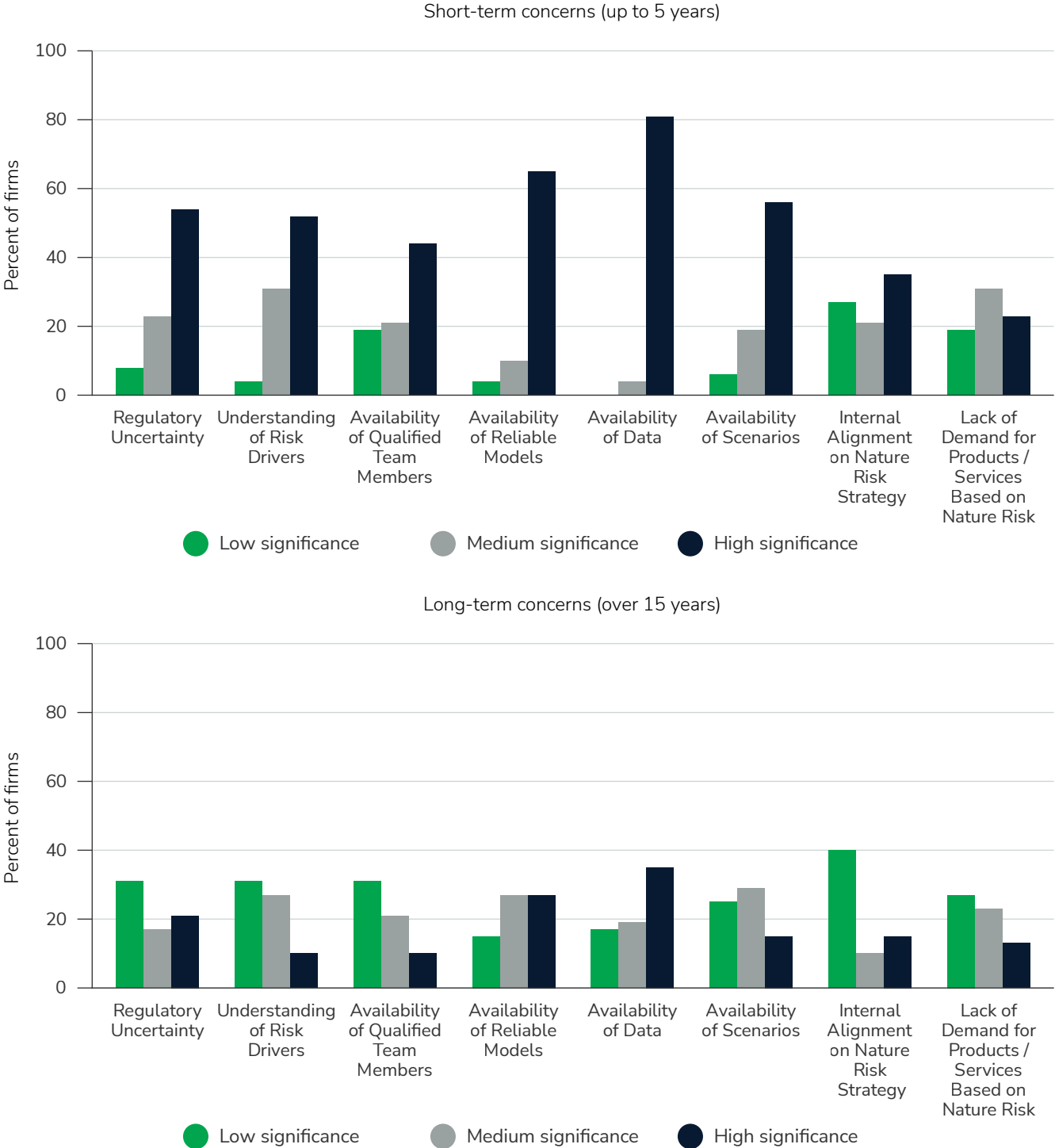
At this stage, specific nature-related products, such as nature-linked performance bonds or nature funds, are relatively uncommon. This is not surprising given the newness of the nature agenda.

In addition, many firms are facing a range of challenges as they establish their nature risk strategic and management practices. One challenge is how to align your strategy with that on climate. Forty percent of firms report that these strategies are now aligned, with a further 23% either working on aligning them or intending to do so.

Figure 10 shows a range of other short- and long-term challenges. Availability of data and reliable models dominate both time periods. For more than half the firms, regulatory uncertainty, understanding the risks, and availability of scenarios are also highly significant short-term concerns. (These challenges are very similar to the concerns raised by firms in our climate risk survey.)

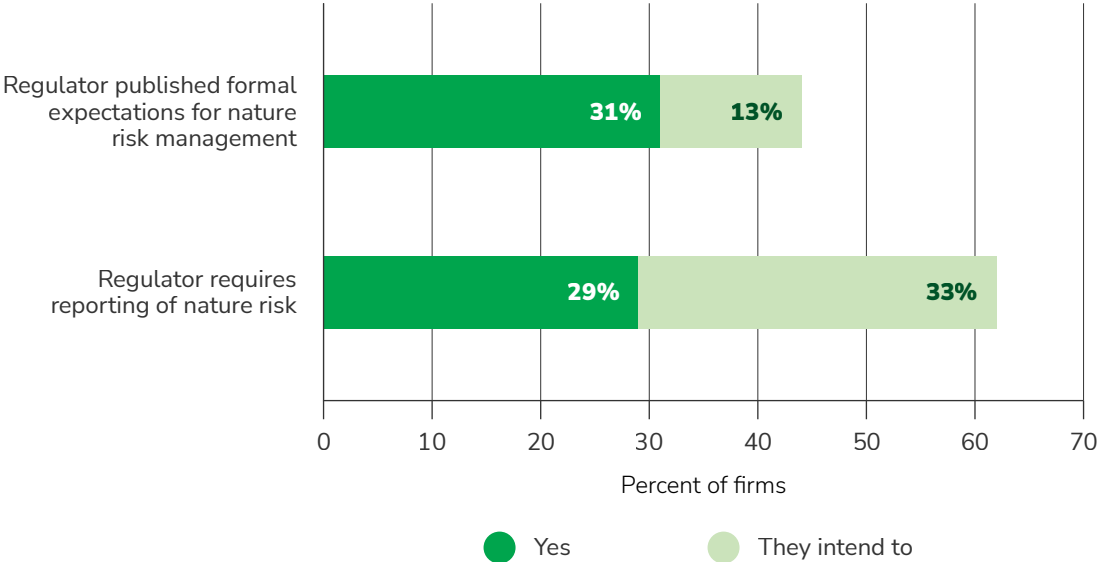
All concerns ease in the longer term. This indicates that firms expect more reliable data to become available, regulatory regimes to mature, and modeling approaches to become better established.

Figure 10 Future Barriers and Challenges



Uncertainty about regulatory demands might reflect just how new nature risk is for many regulators, as well as the fact that firms are witnessing an increase in the number of regulators expecting them to manage these risks.

Figure 11 Regulatory Expectations on Nature Risk Management



Thirty-one percent of the firms report that their regulators have published formal expectations for nature risk management, and another 13% expect their regulators to do so (Figure 11). The regulations come from sources such as the European Central Bank (ECB), Europe’s Corporate Sustainability Reporting Directive (CSRD) requirements, the Monetary Authority of Singapore, and the Banco Central do Brasil.

Roughly 30% of firms say that regulators are now requiring them to report their nature-related risks, and this is expected to double – led by the efforts of the ECB, Banco Central do Brasil, the CSRD, and the Dutch National Bank.

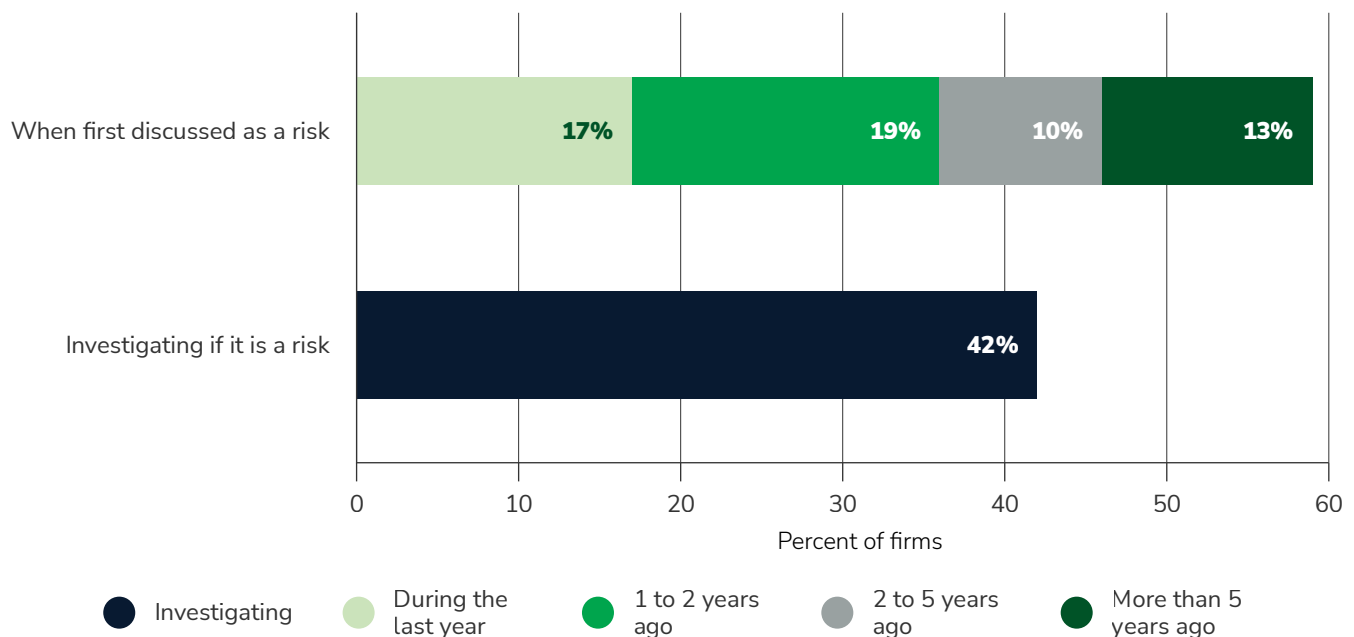


RISK MANAGEMENT

This section looks at how firms identify, assess, and manage nature risk, and how these processes are being integrated into their overall risk management framework.

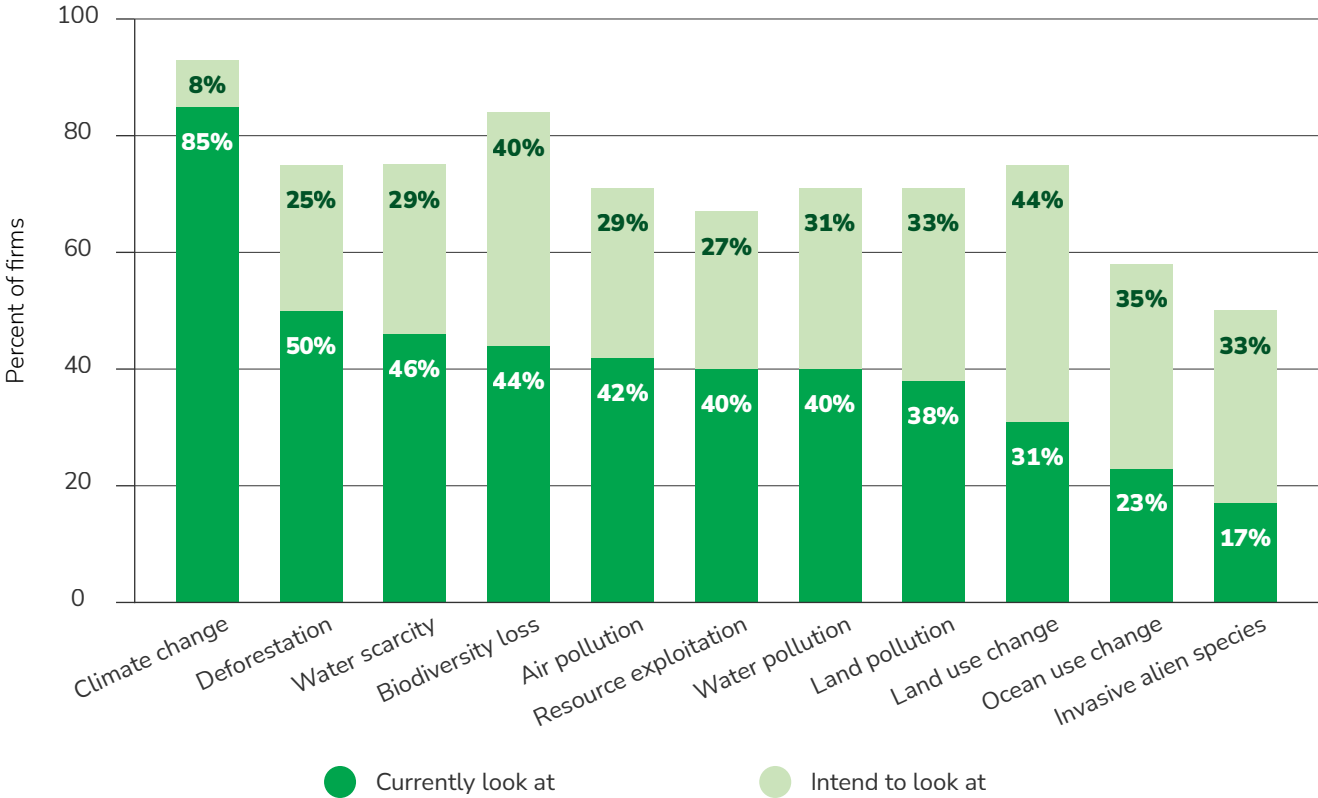
Figure 12 clearly depicts how recent nature risk is for many financial firms. Although most have formally started looking at nature-related financial risk, slightly more than 40% are currently investigating whether it should even be treated as a risk. Seventeen percent of the firms introduced it within the last year, another 19% started looking at nature risk between one and two years ago, and about a quarter of firms started more than two years ago.

Figure 12 When Was Nature Risk First Introduced?



At this early stage in the management of nature risk, most firms are trying to understand the drivers of nature change their portfolio may impact or be impacted by (Figure 13). Perhaps not surprisingly, given their established work in this area, climate change is the most popular topic. Deforestation is the next most common, followed by water scarcity, biodiversity loss, air and water pollution, and resource exploitation. These drivers tend to be reviewed across all relevant industry sectors.

Figure 13 Which Drivers of Nature Change Does Your Organization Look or Intend to Look at?



Once drivers have been identified, the natural next step is to conduct materiality assessments to establish the relative significance of these factors. However, at this stage, these assessments are not well established. Only 35% of firms have performed a materiality assessment, though a further 23% have one in progress.

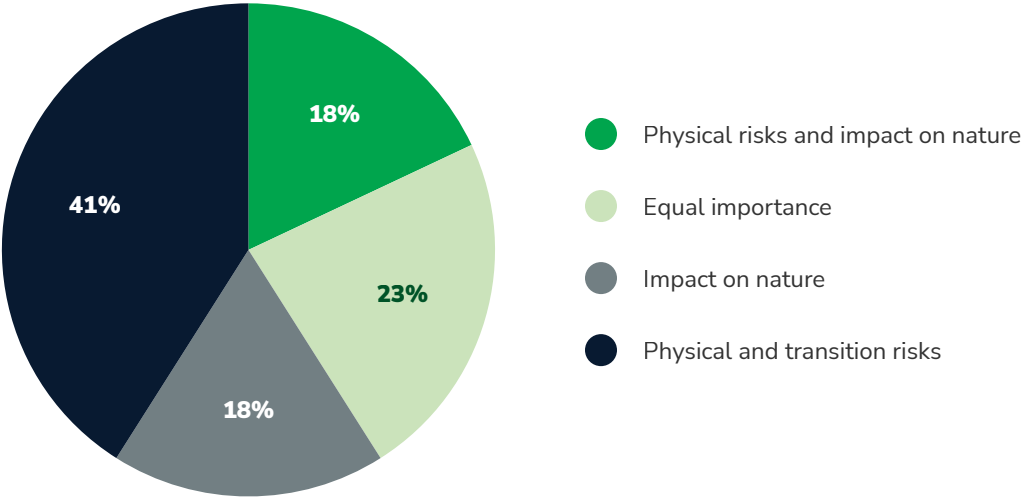
As with climate change, firms are interested in the physical and transition risks associated with nature. Consequently, each risk driver can be looked at from these perspectives. Take deforestation as an example. It can lead to greater soil erosion, affecting agricultural productivity, which is a physical risk. But a firm might also be concerned about the transition risks that deforestation poses from regulations to reduce or reverse it.

Moreover, as with climate change, firms are interested in the impact that their activities have on these drivers of nature change. This might be because of concerns about potential litigation or reputational impacts, if they are lending, say, to a firm that is responsible for deforestation.

Firms that have conducted a materiality assessment were asked which financial risks they reviewed – namely physical risk, transition risk, or their portfolio’s impact on nature.

Figure 14 shows that there is a reasonable spread, with a wide variety of areas reviewed. However, if we add up all the pieces of the pie, the most commonly reviewed was potential financial impacts from physical risk (82%). Sixty-five percent of firms, on the other hand, reviewed transition risk, while 59% assessed risks to their business from their portfolio's impact on nature.

Figure 14 Which Financial Risks Have Been Assessed: Physical Risk, Transition Risk, and/or the Portfolio's Impact on Nature?



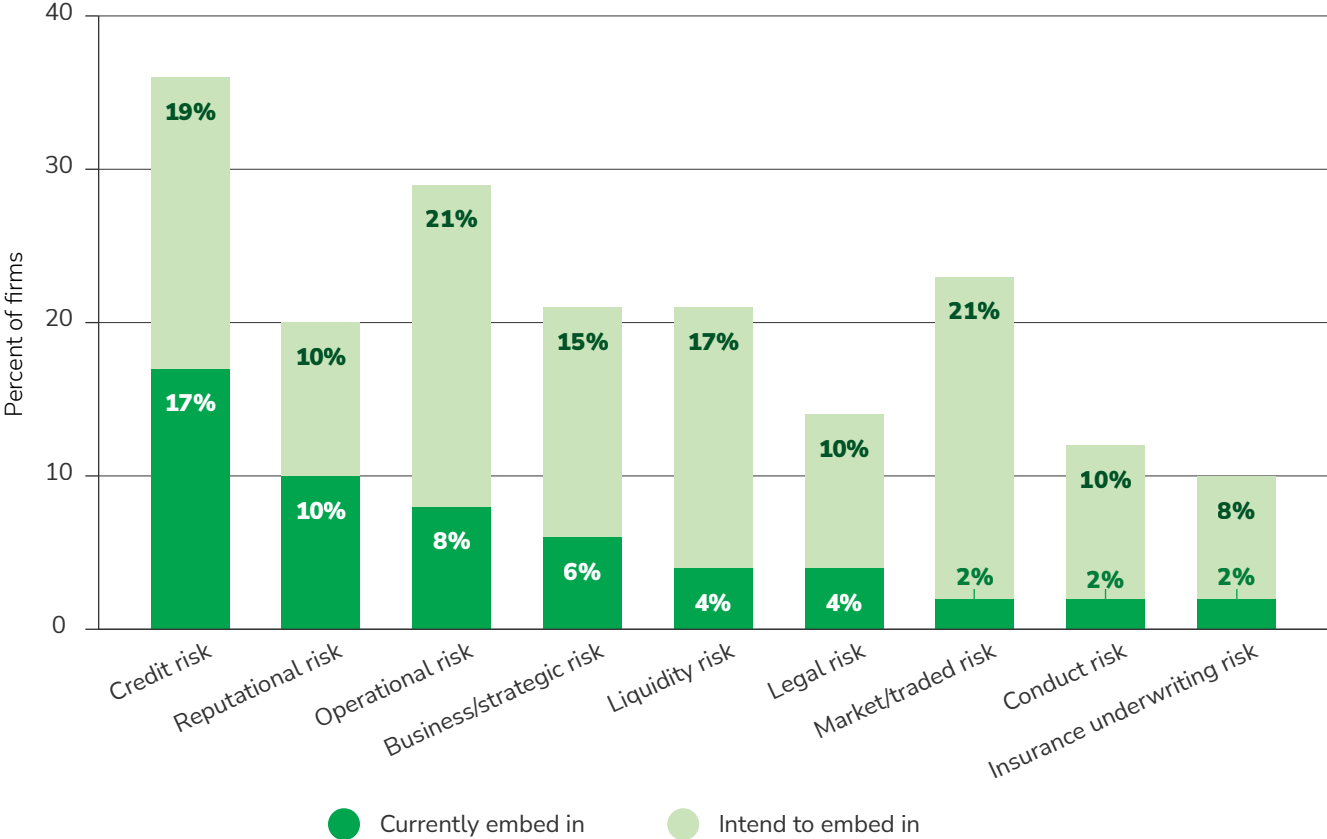
Note: Figures are expressed as a percentage of the firms who have done a materiality assessment. Physical risks, transition risks, and the portfolio's impact on nature are spread across multiple categories.

As we saw with climate risk, two main approaches are being adopted to embed nature-related risk into the risk management framework: (1) to treat nature risk as a standalone (principal) risk type; or (2) to treat it as a cross-cutting (transverse) risk that should be embedded within other existing risk types.

Thirty-five percent of respondents embedded nature-related risk in other risk types, and the same percentage considered it in conjunction with climate risk. Only one firm considered it as a principal risk. However, half of firms have not yet considered how to incorporate it.

Credit risk is the most common risk type to embed nature risk into, followed by reputational risk, as depicted in Figure 15. Firms are planning on embedding it into all the traditional risk types – from operational risk to market risk and liquidity risk. All the insurance companies in the Survey have either embedded nature risk, or intended to embed it, within underwriting risks.

Figure 15 Where Is Nature Risk Being Embedded?



One way that firms can embed nature considerations into day-to-day risk management is to include it in due diligence – either for counterparties that they lend to, the companies they invest in, or those they insure.

Assessing counterparties’ impacts on nature is the most popular due diligence approach, cited by nearly 40% of respondents. The second most popular response was to assess the impact that nature-related physical risks have on their counterparties (around 30%), with transition risks of counterparties assessed by 21%. Systemic risk assessments are quite rare (just 6%).

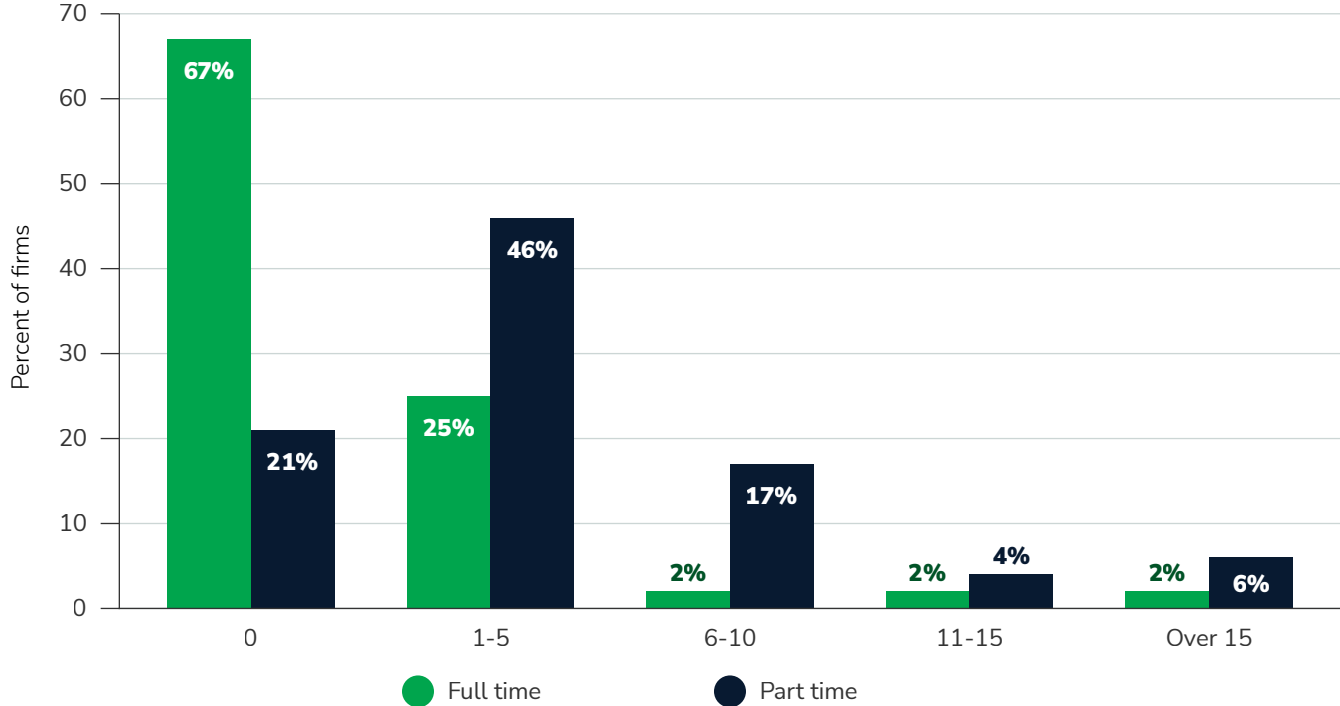
Given that this is a new area for most firms to try and quantify, it should come as no surprise that most of the due diligence is done using qualitative assessments.

A key part of risk management is understanding the level of risk that the firm is willing to take to achieve its business objectives. This is typically articulated in a risk appetite statement (RAS), which is approved by the board. Currently, only 8% of firms have a nature-related risk appetite statement, while 42% are planning on creating one. Interestingly, 48% are not planning on creating one.

Firms are also choosing different operating models for nature risk management. However, the risk function is the most popular choice to have responsibility for nature risk (46% of firms), followed by the front office (23%). There was no clear pattern on the levels of seniority leading these teams, which might simply reflect that at this stage the teams are still very small.

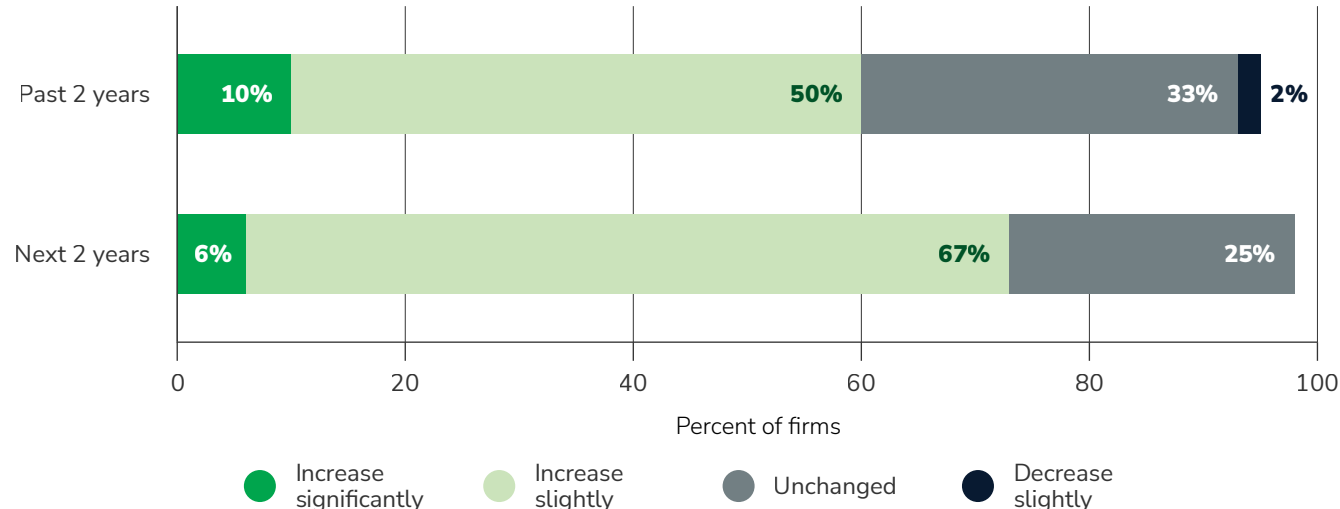
Figure 16 shows nearly 70% of firms reported no full-time employees working on nature. Twenty-five percent of firms have between one and five full-time employees, while just 6% have more than five. It is more common to have staff working part-time on nature risk, with nearly half of firms reporting they employ between one and five part-timers.

Figure 16 Number of Staff Working on Nature Risk



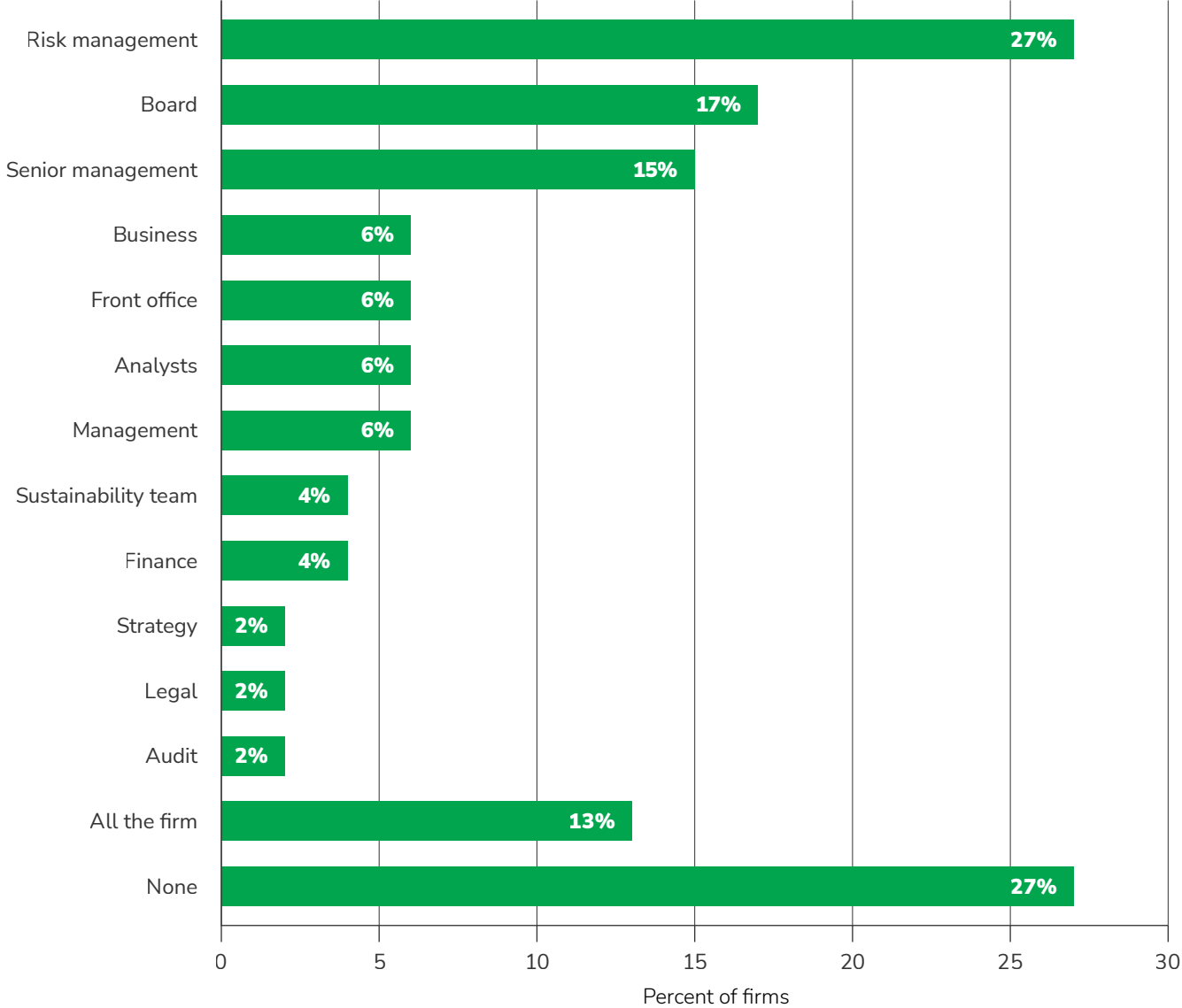
This might in part reflect the difficulty of getting staff with the right experience; Figure 10 did show that 44% of firms reported that availability of qualified staff was a high concern in the short term. It's also true, however, that many firms are still deciding if nature risk is even a material risk for them. Firms do expect to hire more staff in the coming two years, following modest staffing level increases over the past two years (Figure 17).

Figure 17 Changes in the Number of Staff Working on Nature Risk



Firms are also doing a range of things (especially training) to build capability. More than 50% of firms offer nature risk training to some functions, with 13% of firms offering it to their entire staff. In terms of targeted training, this is most commonly offered to risk managers, board members, and senior management (Figure 18).

Figure 18 Which Staff Are Being Offered Nature Risk Training?





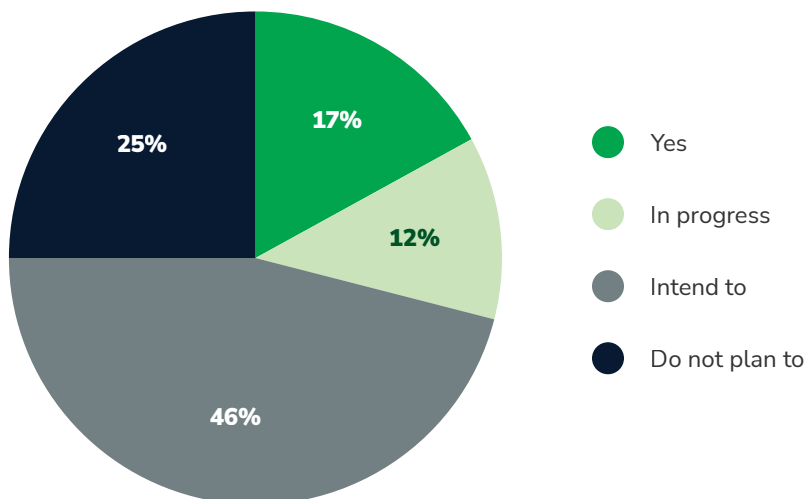
METRICS, TARGETS, AND LIMITS

An integral part of effective risk management is the use of metrics, targets, and limits, which collectively help firms to assess, monitor, and manage risks – as well as to incorporate them into their risk appetite statements.

For this Survey, these terms were defined as follows:

- A metric is a measure used to assess nature-related risks. For example, the percentage of counterparties with a policy (or with a strong policy) to address deforestation.
- A target is the outcome an organization aims to achieve. For example, a firm could strive to have deforestation policies implemented at more than 90% of its counterparties.
- Limits represent the worst outcome the organization is prepared to accept without taking corrective action. For example, a firm might state: “If less than 80% of counterparties have a policy to address deforestation, we will actively engage with and encourage those firms that do not have a policy to implement one.”

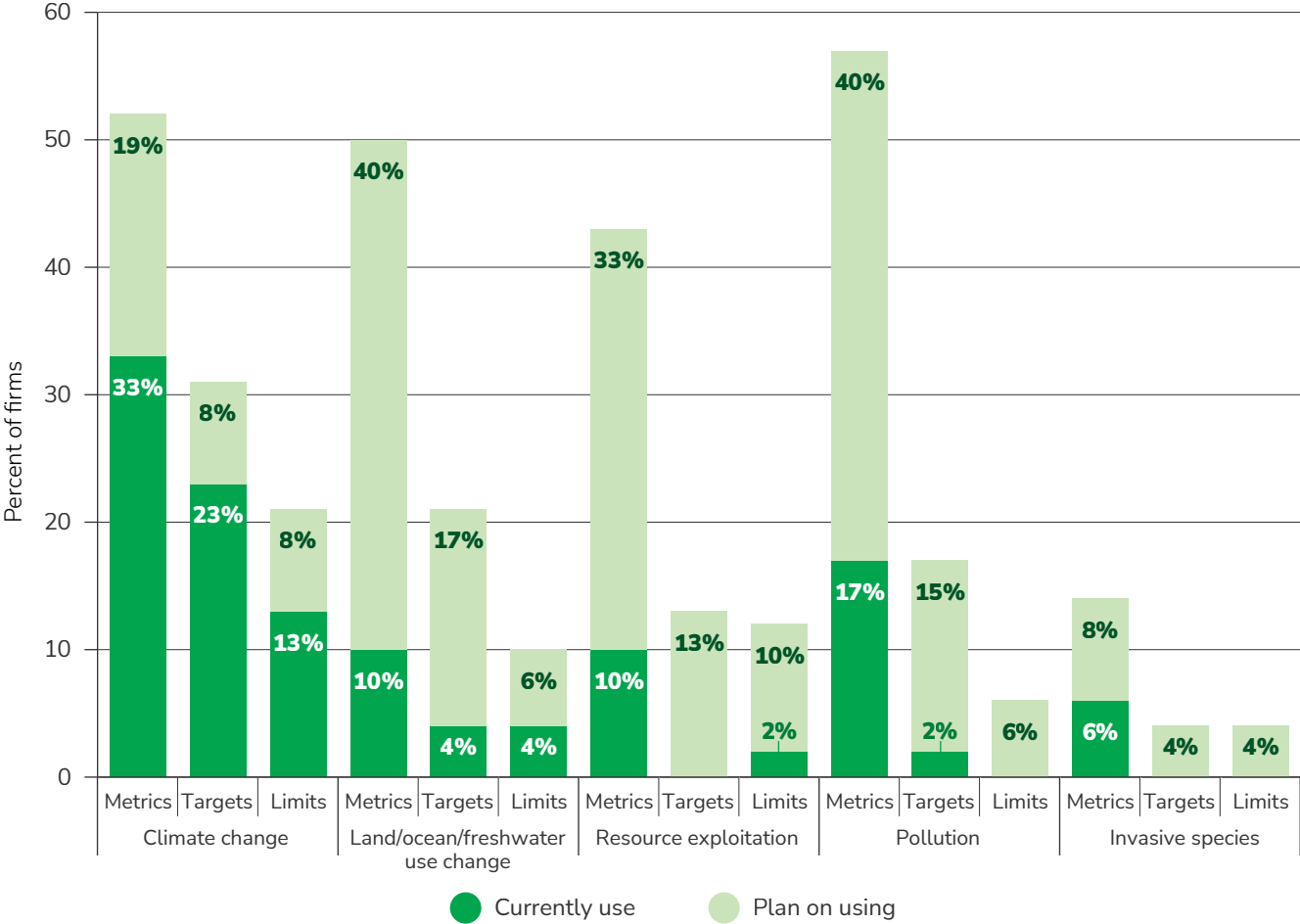
Figure 19 Use of Metrics, Targets, and Limits to Manage Nature Risks



As depicted in Figure 19, 17% of firms are already using metrics, targets, or limits to manage nature-related risks, and another 12% are implementing them now. Forty-six percent of firms are intending to use them, but a quarter of firms are not planning on measuring these risks.

A deeper dive reveals that firms are not using targets or limits all that much for measuring nature risk drivers. As Figure 20 shows, climate change is the driver that most commonly has metrics, targets, and limits, probably due to firms leveraging the work they have already done to understand climate-related risks. Pollution is the next most common driver for which firms have developed metrics, followed by the changing use of land/ocean/freshwater and resource exploitation.

Figure 20 Use of Metrics, Targets, and Limits for Nature Risk Drivers



At this stage, firms may be waiting until common metrics are agreed upon before they consider developing targets or limits. But they are also getting used to new frameworks by which to measure these risks.

Figure 21 Frameworks Used for Measuring Nature Risks

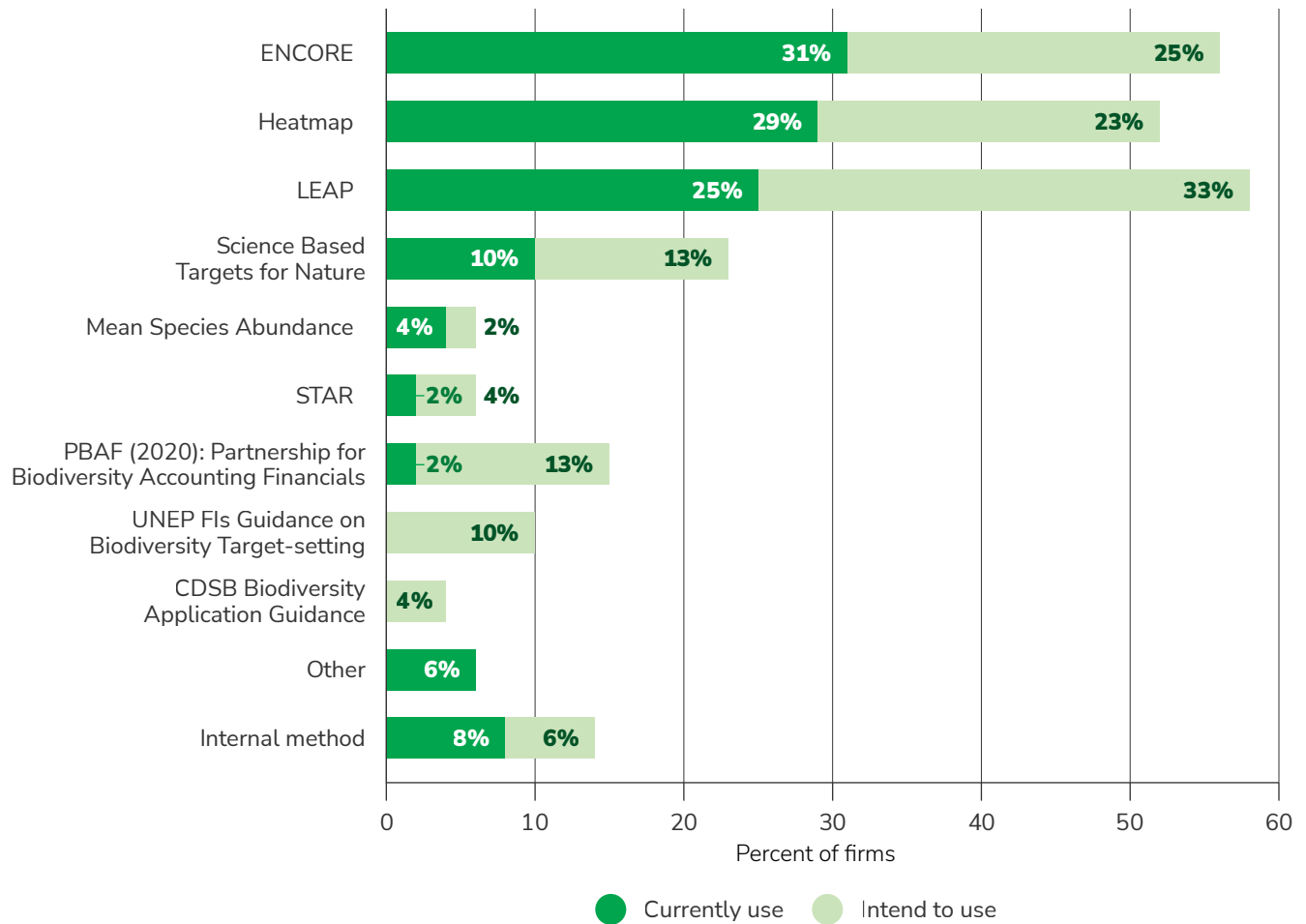
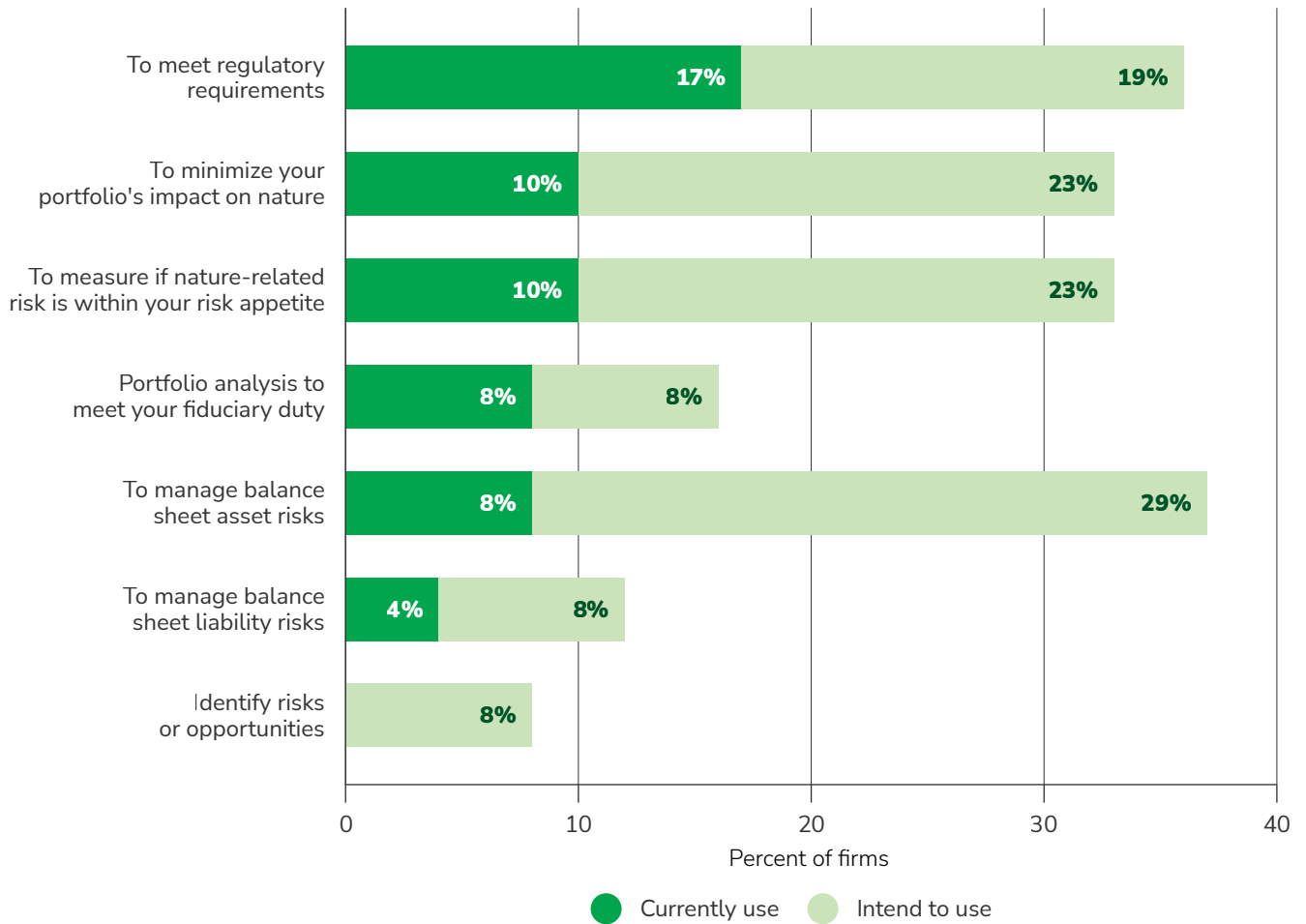


Figure 21 shows which frameworks are currently being used to assess nature-related financial risks. The most common ones are ENCORE (Exploring Natural Capital Opportunities, Risks and Exposure), heatmaps, and TNFD’s LEAP approach. Figure 21 also indicates which frameworks firms intend to which suggests these three frameworks look set to remain the most popular in the future.

Figure 22 Purpose of the Measures (Metrics, Targets, or Limits)



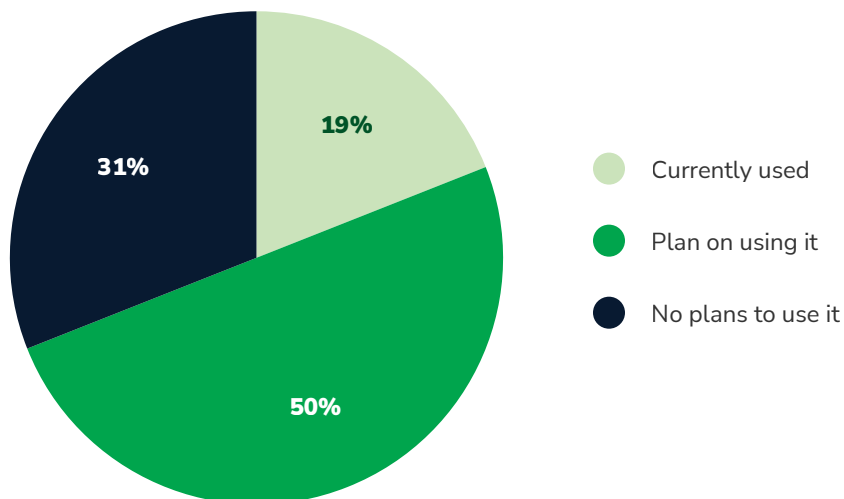
Firms are currently using and developing metrics for different purposes. Figure 22 shows that meeting regulatory requirements is the most common rationale for firms' current use of measures. But when we also look at how firms intend to develop their use of measures, the most popular is to manage balance sheet asset risks (cited by 38% of firms). A third of firms are using or planning to use the metrics to measure their portfolio's impact on nature, with the same proportion using or constructing them for risk appetite purposes.



SCENARIO ANALYSIS

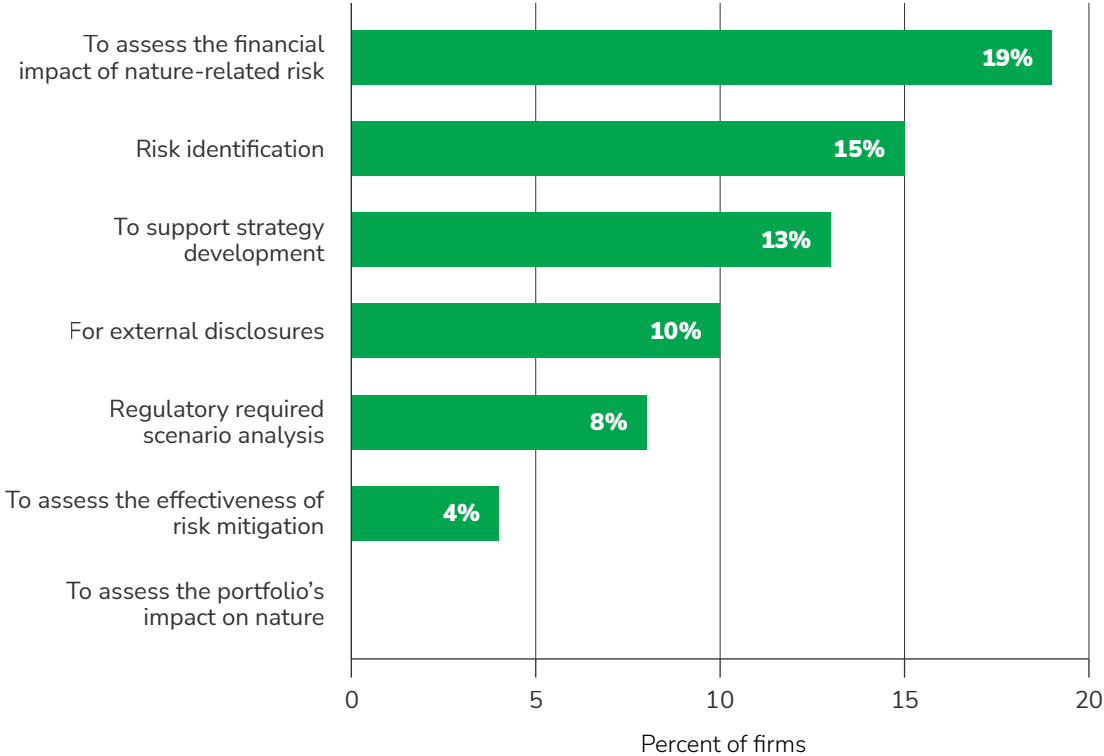
Nature scenario analysis is one of the key tools for identifying and quantifying the potential financial risks from nature loss, but at present it is not widely used. Just under 20% of firms in this year's Survey stated that they are using scenario analysis to understand the impact of nature-related risk on their organization's portfolio or balance sheet (Figure 23). A further 50% of firms are planning on doing so, with half of those in the next two years. However, nearly one-third of firms don't yet have any plans to use scenario analysis.

Figure 23 Use of Scenario Analysis



Firms are using scenario analysis to assess the financial impact of nature-related risk, as Figure 24 shows. Other key reasons for performing scenario analysis are to identify the risks to which firms are exposed and to support strategy development. Ten percent of firms are also doing it to inform their external disclosures. At this stage, firms aren't assessing their portfolio's impact on nature through scenario analysis.

Figure 24 Why Scenario Analysis Is Being Used



Although the number of firms currently using scenario analysis is small, it is worth making some observations about their activities, even if the population isn't large enough to draw definitive conclusions. Most of the firms using scenario analysis are assessing both transition and physical risks, and a couple of firms are also assessing systemic nature risks.

Both external scenarios, such as the scenario narratives created by the TNFD, and internally created scenarios are being used. Internal scenarios include assessing the impact of water scarcity in parts of the world relevant to the portfolio, deforestation impacts, and soil pollution.

The most common reasons for choosing portfolios/securities/transactions/investments to include in the scenario analysis were to assess potential high financial impacts from nature risks or because the portfolios could have material amounts of nature risk.

While most firms have yet to conduct any nature-related scenario analysis, a few firms are significantly more advanced. Those progressive firms have (1) already assessed nature-related risks; (2) integrated nature scenarios into their climate scenarios; and (3) acted based on findings of scenario analysis, such as changing risk management, pricing, or portfolio composition.

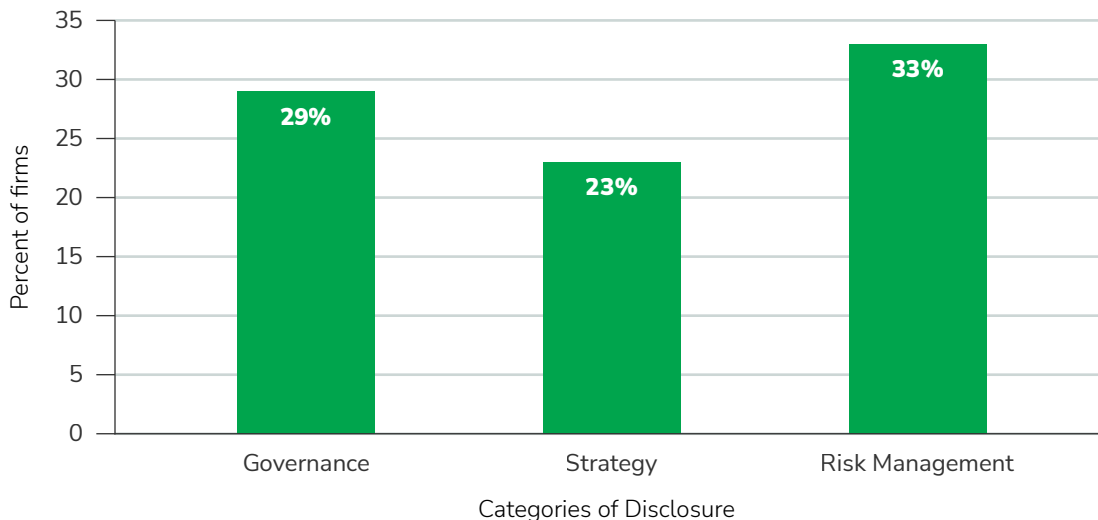


DISCLOSURES

Before delving into what nature-related information firms had publicly disclosed, we wanted to understand what public announcements they had made in relation to their nature initiatives. Fifty percent of firms have made public announcements, such as signing up with Principles for Responsible Banking, committing to no deforestation, signing the Finance for Biodiversity Pledge, or working with TNFD.

We asked participants about their governance, strategy, and risk management disclosures. In yet another indication of how new the nature agenda is to many firms, Figure 25 shows that roughly 30% of firms are disclosing information about either their nature-related governance, strategy, or risk management. This is considerably lower than the equivalent figures in our first climate survey in 2019, in which two-thirds disclosed governance issues and just over half disclosed strategy and risk management.

Figure 25 External Nature-Related Disclosures





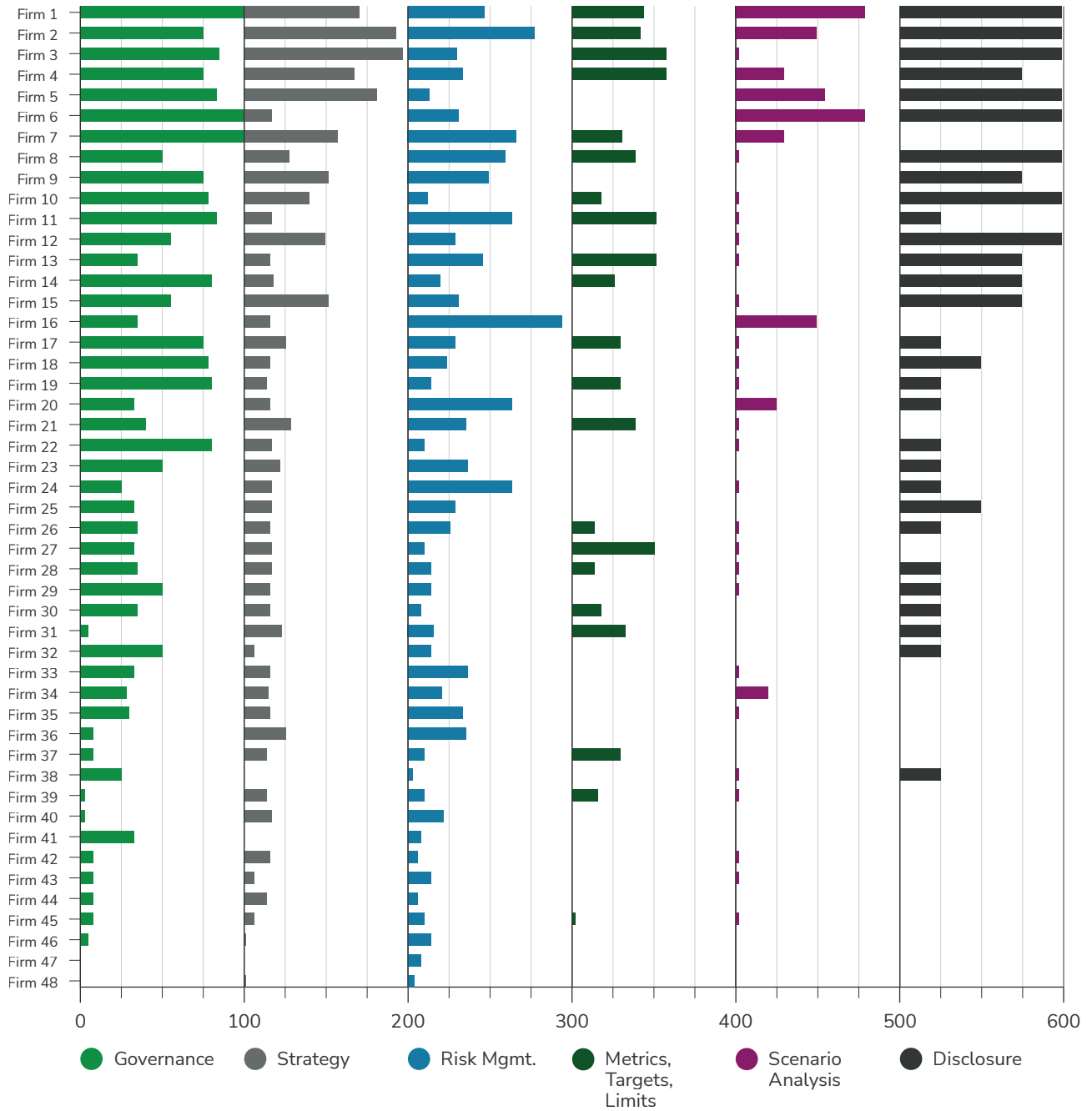
MATURITY MODEL SCORES FOR NATURE RISK MANAGEMENT

Since a maturity model was a useful tool for measuring firms' capabilities for climate risk management, we have also applied that approach in this first Nature Risk Survey. Participating firms were scored on each of the risk dimensions, which not only provides a measure of their particular levels of achievement but also indicates how each firm stands relative to its peers.

However, there are caveats attached to these scores. Nature risk management, as we have mentioned, is in its infancy, and firms appeared at times to be answering the questions more from a climate risk perspective than a nature risk one. They should be awarded points in the model if they have examined climate change as a driver of nature loss, but not if they are just looking at climate change.

It is for these reasons that we are less confident of the relative rankings than in our previous climate risk surveys. With those caveats in mind, Figure 26 shows the scores firms received for each dimension. The completeness of each color within its 100-point bar provides a snapshot of current capabilities within that dimension.

Figure 26 Maturity Model of Nature Risk Management



Firm 1, for example, scores very well on governance and disclosure, less well for strategy and scenario analysis, and still reasonably well for use of metrics, targets, and limits as well as risk management. The firms at the other end of the spectrum scored poorly across all dimensions.

Similar to climate risk, firms generally score better in governance, strategy, risk management, and disclosures, while most firms don't score as well in the more quantitative areas of metrics, targets, and limits, and scenario analysis.

The firms that received higher scores for risk management assessed multiple potential impacts of nature-related risks during their counterparty due diligence – most commonly the physical risks, the transition risks, and the impact of these risks on nature.

Figure 27 Range of Practice Across Firms

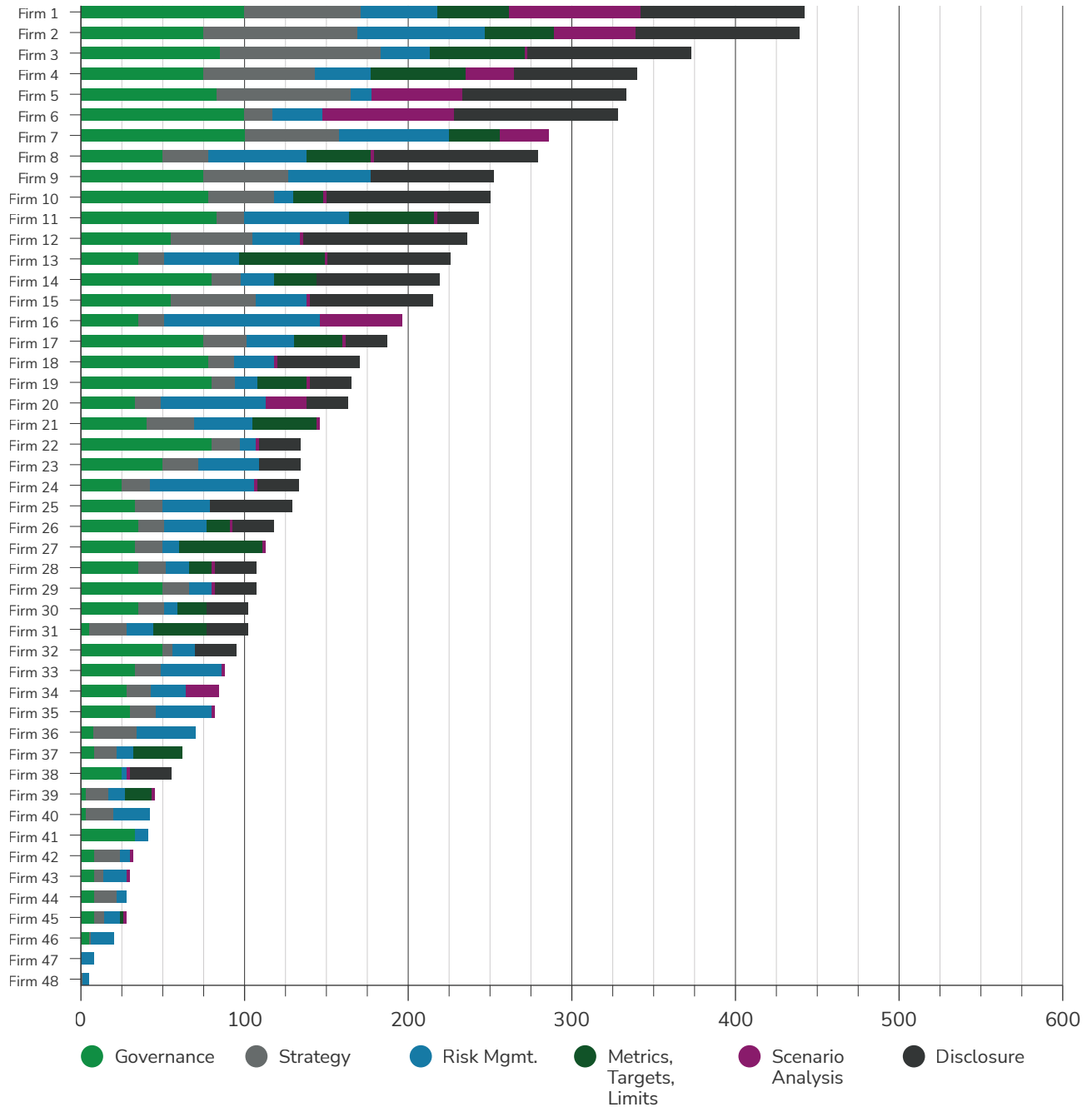


Figure 27 adds all the scores into a cumulative total, which provides a better indication of the range of practice between firms. The maturity model shows a wide distribution of progress in nature risk management, with a few firms already having quite advanced capabilities and others just getting started.

It is interesting to compare this with the first climate survey that we undertook in 2019, where just over 20% of the distribution scored less than 200. In this Nature Risk Survey, nearly 70% of firms scored less than 200. This is yet another way of indicating just how far firms must go to put nature risk on an equal footing with climate risk.



CONCLUSIONS

Our inaugural Nature Risk Survey indicates that firms are generally at the very start of their journey in assessing the risks and opportunities associated with nature loss. We chose to undertake this survey because of the importance of nature as a source of both financial risks to firms and systemic risk to society. Nature resiliency is also essential for combatting climate change.

Overall, the results indicate nature risk management is very much in its infancy, much as we saw with climate risk in our first climate risk survey in 2019 but it is arguably even less advanced. For example, board governance on nature issues is less established than climate was in 2019; a far lower proportion of firms have identified nature-related risks or opportunities; and the more quantitative aspects of risk management – such as developing metrics, target, and limits, or using scenario analysis – have barely begun to be established.

The good news is that firms can build upon their experiences of establishing good climate risk management to assist them with their journey on nature risk. Nature risk faces many of the same challenges and barriers as climate risk – poor availability of data and models, regulatory uncertainty, and availability of staff, to name a few. But, as with climate, these concerns are expected to ease over the longer term, indicating that these things do take time to set up and mature.

We also found that many firms were confused by the interconnections between climate change and nature. Climate change is just one of the drivers of nature-related risks, together with land/water/ocean use change, resource exploitation, pollution, and invasive species. Many firms answered questions from a distinctly climate-centered perspective, rather than from a nature perspective. Where we were able, we tried to correct for that in the scoring.

Given that such a large proportion of the economy – and therefore financial portfolios – are dependent or highly dependent upon nature, nature risks are likely to become an increasingly important area of focus for regulators, investors, and civil society.

The financial system has a potentially influential role to play in the transition to a nature positive world, and good risk management practices can be a powerful foundation for that.

GARP will review whether to undertake this Nature Survey again in 2024, or to combine it with a climate focus, or simply to revert to a climate risk focus. We would welcome feedback from participating firms and readers. Please email any comments to naturerisksurvey@garp.com.

Nature-Related Risk Definitions

The definitions in this section are from the recommendations of the [Taskforce on Nature-related Financial Disclosures \(TNFD\)](#).

Natural capital is the stock of renewable and non-renewable natural resources, such as plants, animals, air, water, soils, and minerals that combine to yield a flow of benefits to people. The environmental assets that are natural capital underpin our economy and society.

Ecosystem services are the flow of benefits, from natural capital to people and the economy.

Nature-related physical risks are risks to an organization that result from the degradation of nature and consequential loss of ecosystem services. These risks can be acute or chronic (Table 1). Nature-related physical risks arise as a result of changes in the biotic (living) and abiotic (non-living) conditions that support healthy, functioning ecosystems. These risks are usually location specific.

Table 1 Categories of Nature-related Physical Risks

Category	Description
Acute risks	Occurrence of short term, specific events that change the state of nature. For example, oil spills, forest fires or pests affecting a harvest.
Chronic risks	Gradual changes to the state of nature. For example, pollution stemming from pesticide use or climate change.

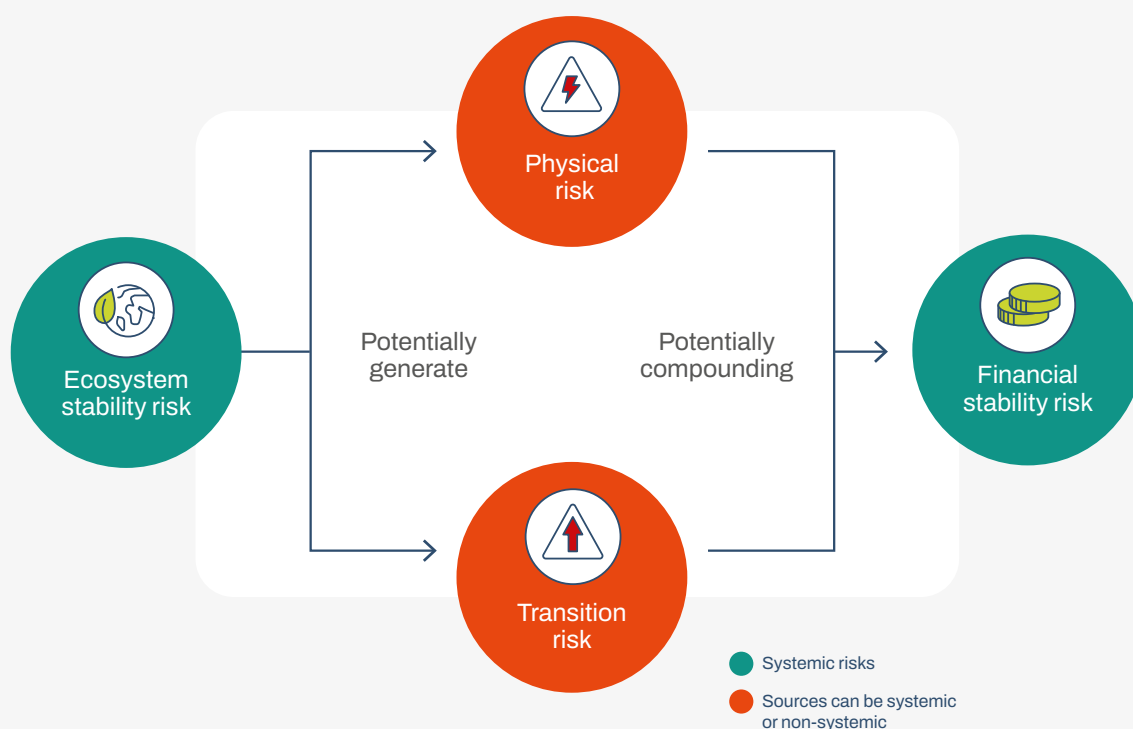
Nature-related transition risks are risks to an organization that result from a misalignment of economic actors with actions aimed at protecting, restoring and/or reducing negative impacts on nature. The same sub-categories that are used for climate risk are also used for nature risk — namely, policy, market, technology, reputational, and legal risks. Examples are shown in Table 2.

Table 2 Categories of Nature-related Transition Risks

Category	Description
Policy	Changes in the policy context due to new (or enforcement of existing) policies to create positive impacts on nature or mitigate negative impacts on nature.
Market	Changing dynamics in overall markets, including changes in consumer preferences, which arise from changing physical, regulatory, technological and reputational conditions and stakeholder dynamics. For example, the market value of a company is affected by assets that have decreased in value because there is insufficient freshwater for the production process, or the value of the business' production process is reduced by the emergence of new technologies that require less water to operate.
Technology	Substitution of products or services with a reduced impact on nature and/or reduced dependency on nature. For example, the replacement of plastics with biodegradable containers.
Reputational	Changes in perception concerning an organisation's actual or perceived nature impacts, including at the local, economic and societal level. This can result from direct company impacts, industry impacts and/or impacts of activities upstream and/or downstream in a value chain.
Liability	Liability risks that arise directly or indirectly from legal claims. As laws, regulations and case law related to an organisation's preparedness for nature action evolves, the incident or probability of contingent liabilities arising from an organisation may increase. ³⁷

Nature-related systemic risks are risks to an organization that arise from the breakdown of the entire system, rather than the failure of individual parts. These risks are characterized by modest tipping points combining indirectly to produce large failures, where one loss triggers a chain of others, preventing the system from reverting to its prior equilibrium (see Figure 28).

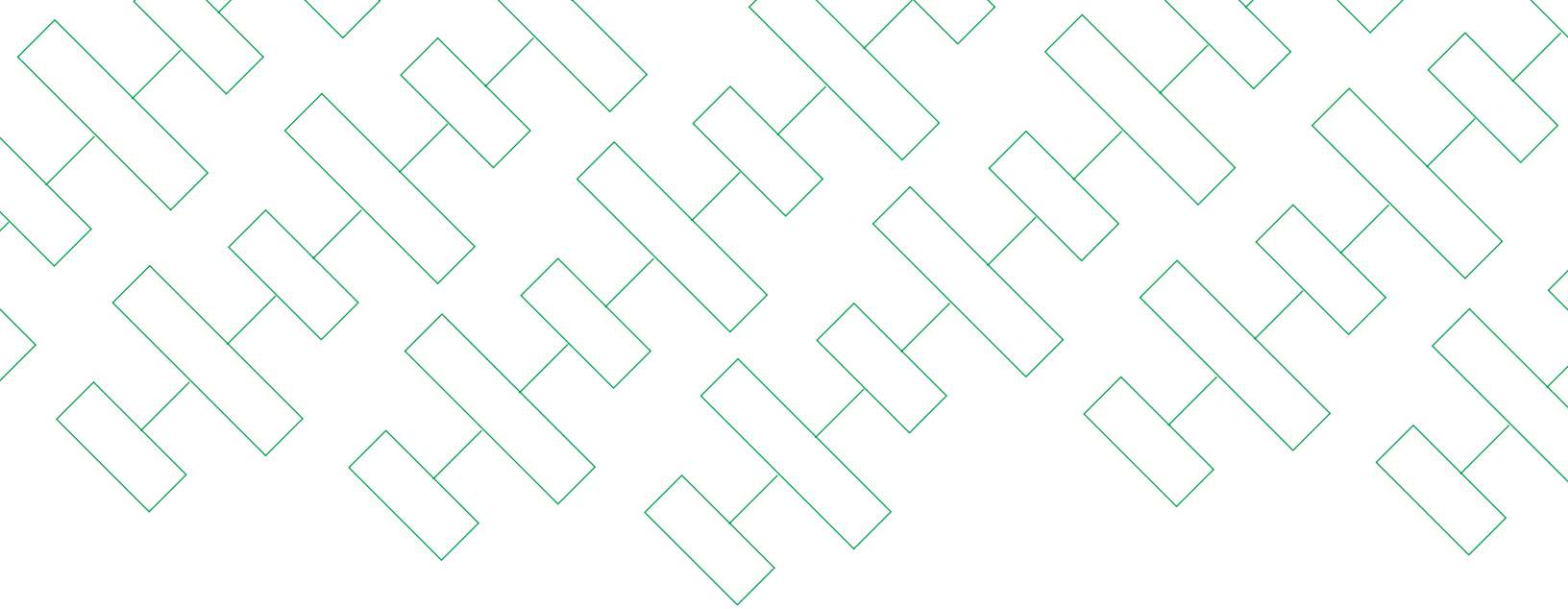
Figure 28 Relationship Between Nature-related Risk Types



There are two categories of nature-related systemic risk:

- Ecosystem stability risk: Risk of the destabilization of a critical natural system, so it can no longer provide ecosystem services in the same manner as before. For example, tipping points are reached and regime shifts and/or ecosystem collapses occur that generate forms of physical and/or transition risk.
- Financial stability risk: Risk that a materialization and compounding of physical and/or transition risks leads to the destabilization of an entire financial system.

Systemic risks are of significant interest to policymakers and market regulators because of their potential to cause sudden disruption to societies, economies, and the functioning of financial markets. But they also need to be considered by businesses and financial institutions, given the potential for them to have unforeseen and significant financial implications.



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Jo Paisley, President, GARP Risk Institute, has worked on a variety of risk areas at GARP Risk Institute, including stress testing, operational resilience, model risk management, and climate and environmental risk. Her career prior to joining GARP spanned public and private sectors, including working as the Director of the Supervisory Risk Specialist Division within the Prudential Regulation Authority and as Global Head of Stress Testing at HSBC.

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