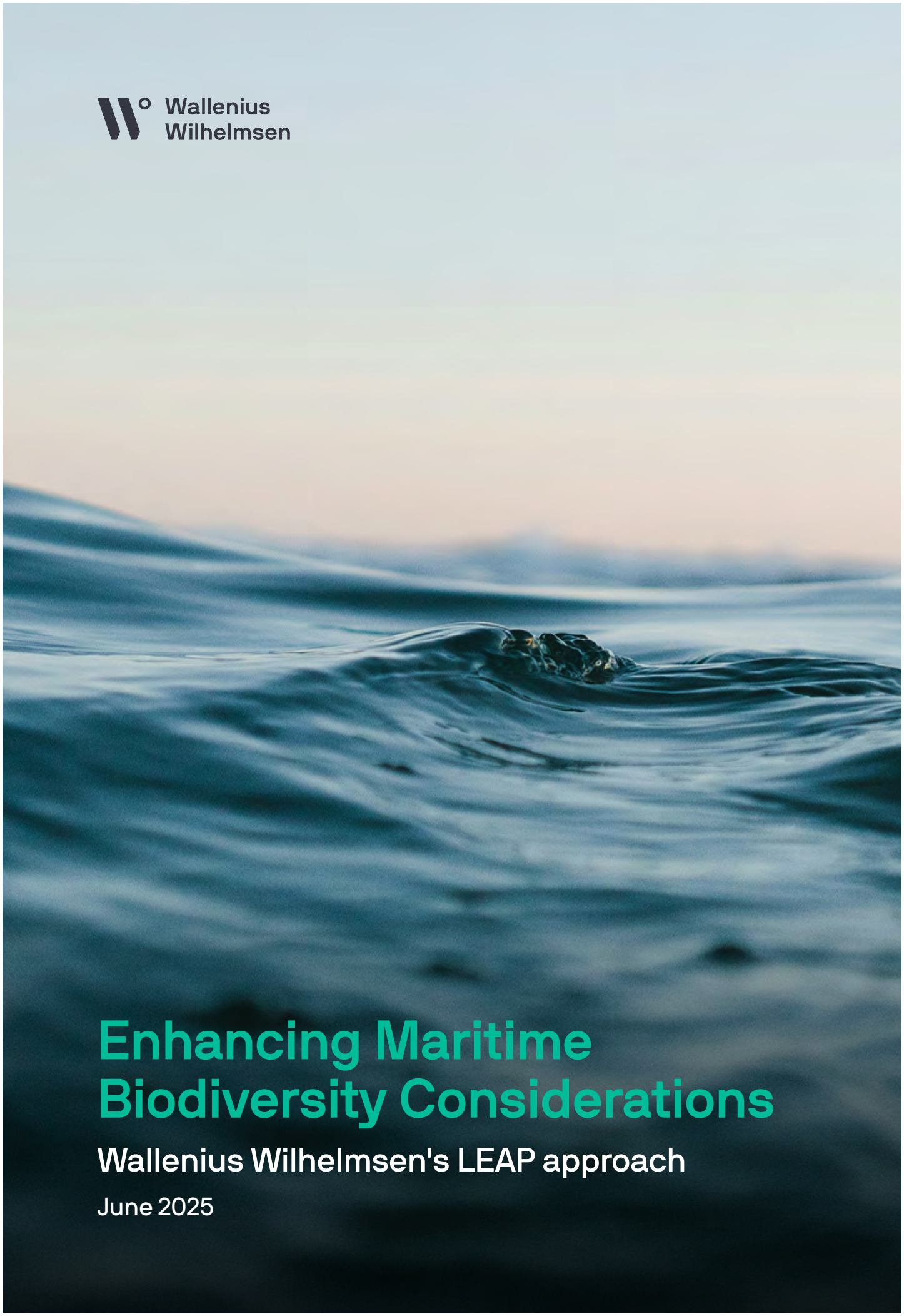
Wallenius Wilhelmsen



Enhancing Maritime Biodiversity Considerations

Wallenius Wilhelmsen's LEAP approach

June 2025

Contents

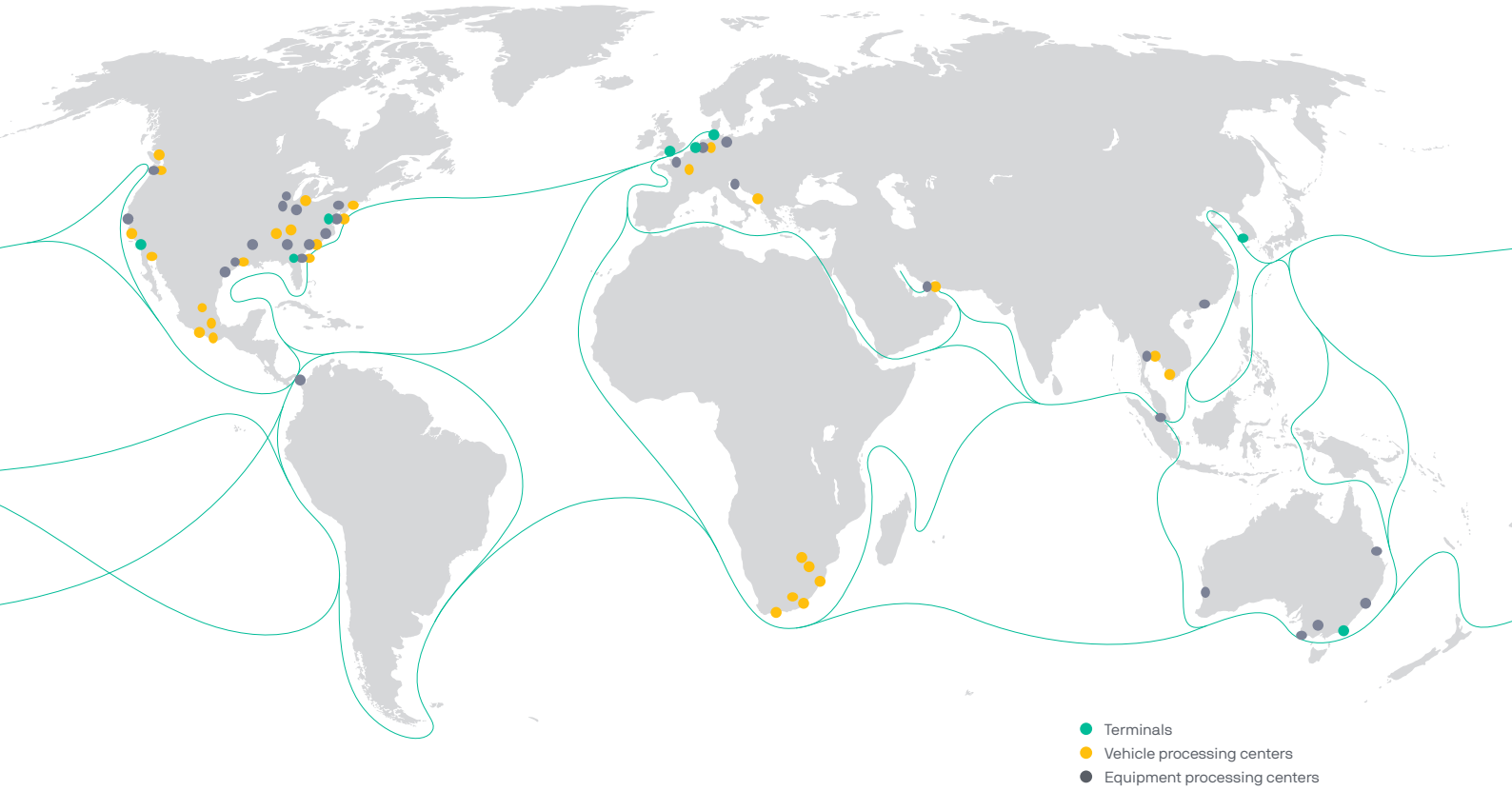
Wallenius Wilhelmsen

Wallenius Wilhelmsen is a global leader in integrated vehicle transportation and logistics solutions. We support our customers across their supply chain, from the factory all the way to the end-customers. We operate in three key business segments: shipping, logistics, and government.[1]

At sea, we currently operate around 125 vessels on 15 trade routes, serving six continents. By fleet size, we are the world's largest operator of roll-on/roll-off vessels. Our vessels are equipped with hoistable decks and robust ramp capacities, this enables us to transport cargo of all sizes for our customers worldwide.

On land, we operate a comprehensive logistics network through eight terminals, 11 inland distribution networks, and 66 service and processing centers located around the world.

Wallenius Wilhelmsen is headquartered in Oslo, Norway, and listed on the Oslo Stock Exchange (OSE: WAWI). We employ around 9,500 employees in 28 countries, in addition to around 2,500 seafarers.[2]



1 In this document, the Shipping and Government segments are referred to collectively as shipping
2 Read more at www.walleniuswilhelmsen.com

Overview

Wallenius Wilhelmsen has a long legacy of sustainability initiatives, including adhering to the recommendations in the Blue Whales Blue Skies program[3], implementing responsible ship recycling and advanced anti-fouling management procedures. We are also part of the Woods Hole Oceanographic Institute Science Research on Commercial Ships initiative, where we share ocean data with the institute. These initiatives have contributed to mitigating adverse impacts. However, to fully understand our interactions with nature and biodiversity, we needed a systematic framework to assess our dependencies, impacts, risks and opportunities relating to ecologically sensitive areas globally.

This use case explores how Wallenius Wilhelmsen implemented the Taskforce on Nature-related Financial Disclosures (TNFD) guidance to assess and manage nature-related dependencies, impacts, risks and opportunities. We conducted a biodiversity impact assessment in 2024 which aligns with the TNFD's LEAP approach and is described in this use case. It highlights the methodologies used, learnings, outcomes and ambitions going forward. It provides insights into the practical application of TNFD guidance in a global shipping and logistics company.

The main objective of this use case is to delve deeper into the "Locate" and "Evaluate" phases of the LEAP approach and reassess interactions with ecologically sensitive locations. The use case also explains the high-level approach we have taken on the "Assess" and "Prepare" phases of LEAP. The deeper analysis of the initial phases has enabled us to improve our understanding of adverse impacts from maritime transport operations. The assessment analyzed shipping operations' data against data layers on ecologically sensitive areas and marine mammal movements. While the TNFD sector guidance addresses upstream and downstream activities, which are relevant to our company's full value chain, this use case focuses on our direct operations. Defining the scope was important to develop a more targeted analysis of nature-related risks and impacts at sea, particularly in relation to vessel operations in ecologically sensitive areas.

3 Protecting Blue Whales and Blue Skies (BWBS) is a voluntary Vessel Speed Reduction (VSR) verification and recognition program. Read more here: https://www.bluewhalesblueskies.org/

Key takeaways

Assessing our shipping operations' dependencies, impacts, risks, and opportunities associated with nature and biodiversity has provided significant learning across the business. It has revealed opportunities to better locate and understand our interactions with nature, utilize data on biodiversity and locate areas to reduce impact. Ecologically sensitive areas around the global oceans are complex and constantly changing, making it difficult to conclude the significance and severity of our contributions to adverse impacts. Below, we have summarized some key takeaways and learnings from our assessment.

1. Turning complex regulations into strategic advantage: The evolving regulatory landscape globally, ranging from International Maritime Organization (IMO) regulations to regional legislation such as the European Unions' Corporate Sustainability Reporting Directive (CSRD) and the Taxonomy, reinforces our efforts to lead in sustainability. The TNFD guidance helps us align with these comprehensive regulatory requirements, offering a clear path to differentiate our ambition and improve governance, strategy, and risk management.

2. Building materiality and scope progressively: We chose to apply a double materiality lens which enhanced our understanding of nature's role and materiality in our operations and vice versa. By starting with direct maritime operations, we have established a solid foundation for future assessments across our value chain. This phased approach allows us to build internal capabilities and improve decision-making over time.

3. Tackling interconnected impacts with systems thinking: Shipping influences biodiversity through multiple overlapping drivers—emissions, noise, invasive species, and collisions. By approaching these impacts holistically and prioritizing areas with actionable data, we can better target mitigation and develop cross-cutting solutions that benefit ecosystems and operational performance.

4. Advancing data use through practical innovation: We have used recommended TNFD data layers and identified relevant ecologically sensitive areas for further considerations. However, data gaps persist as many sources lack machine-readable formats, are behind paywalls, or lack harmonization. This underlines the importance of industry-wide collaboration to develop standardized, scalable data solutions that bridge the gap between science and corporate practice.

5. Driving progress through collaboration: Our experience shows that engaging diverse stakeholders leads to meaningful outcomes. The voluntary Traffic Separation Scheme (TSS) south of Sri Lanka, developed with IMO, researchers, NGOs, and shipping peers, is reducing whale strike risk in a globally important biodiversity hotspot. As awareness grows, so does the potential for coordinated solutions that align conservation goals with operational needs.

Implementation of the LEAP approach

Scope

Given the global nature of Wallenius Wilhelmsen and the complexity of our value chain, this assessment focuses on our shipping operations, which represent our core business segment and account for approximately 75 percent of our total revenue. This focus ensures that the assessment captures the most material part of our operations. Other parts of the value chain will be systematically assessed in the coming years to provide a comprehensive view of our full value chain impact.

Locate the organization's interface with nature

Span of the business model and value chain

Locating interactions with nature and biodiversity is essential for pinpointing risk and potential adverse impacts across our operations. We used Automatic Identification System (AIS) data[4] to map our global shipping routes and data layers in a Geographic Information System (GIS) platform[5] to identify areas where operations intersect with sensitive ecosystems. Data layers such as Marine Priority Areas (MPAs), Ecologically and Biologically Significant Marine Areas (EBSAs), Marine Wilderness, and Human Impact on the Oceans, were used to assess interactions with ecologically sensitive areas. These layers were adopted from open sources such as the UN Biodiversity Lab. The data was useful in analyzing and setting a boundary on whether our shipping operations would cross, or spend time within, these sensitive areas. This mapping helped us understand where our activities may have impacts on biodiversity. The visual below shows our AIS data and data on EBSAs globally.[6]

Being a company with global operations presents a challenge to assess dependencies and impacts to a local level. To overcome this challenge, we set thresholds to define specific geographical areas for further analysis. This was also supported by a comprehensive stakeholder dialogue with particular emphasis on gaining insights from maritime experts and biologists. Although the vast differences in ecologically sensitive areas globally and the dynamic nature of biodiversity present a key challenge in scoping the assessment, defining locations to assess and prioritize further provided important learning.

Interface with nature and screening of dependency and impact

To understand which of our global operations have higher dependencies or impacts on nature, we segmented our operational activity into case locations. The cases were selected based on material operations (frequency of routes), their overlap with EBSAs and MPAs, their representation of different operational interfaces with nature (e.g. near shore vs high seas), and finally their relevance to different TNFD biomes.

4 AIS (Automatic Identification System) data provides information about vessel position, speed, course, and identity.

5 A GIS (Geographic Information System) platform is a software system to visualize and analyze geographic data.

6 CBD Secretariat, 2022. Ecologically or Biologically Significant Marine Areas. Accessed via UN Biodiversity Lab:https://unbiodiversitylab.org/en/

Case area	Example locations	Example activity	TNFD Biome	Local biological considerations[7]
High seas	North-West Atlantic; North Pacific	Open-water transit	Open ocean waters (M2)	Pelagic species (e.g. whales, tuna, seabirds), migratory corridors, oceanic carbon cycling
Straits / Channels / Canals	Panama Canal; Malacca Strait	In-zone speed-reduced transit	Marine shelf (M1), Shoreline systems (MT1), Brackish tidal (MFT1)	Whale and fish migration routes, shelf-edge biodiversity, benthic habitats
Close to shore	Brisbane to Melbourne, Cape Hope, Sri Lanka corridor	Nearshore passage	Shoreline systems (MT1)	Blue whales, coral reefs, seagrass meadows, artisanal fisheries, coastal tourism
Harbors	Yeosu (Korea); Baltimore (Chesapeake Bay)	Port approaches & anchoring	Artificial marine systems (M4), Coastal inlets & lagoons (FM1), Brackish tidal (MFT1)	Dolphins, estuarine nurseries, sediment ecosystems, noise-sensitive fauna

Interface with sensitive locations

To further prioritize and understand our impact on the example locations described above, we assessed exposure and sensitivity to the locations. These are representative of where we operate our global shipping fleet and may have an impact on certain ecologically sensitive areas. Below we describe our approach to defining priority locations and determining areas in need of further analysis.

Assessing exposure and sensitivity to define priority locations

To assess our AIS data and crossings in areas important for biodiversity, as defined in the LEAP approach, we collaborated with HUB Ocean to revisit our example locations and their exposure and sensitivity to determine priority locations in our operations. The aim was to increase our understanding of dependencies on the traffic route for the specific location and our impact on the marine mammals in the area. For each case location, we assessed:

- Exposure: Time spent in the area (vessel-hours)
- Sensitivity[8]: How vulnerable the local marine mammals are
- Priority[9]: The combined exposure–sensitivity score

Location	Exposure	Sensitivity	Priority
Sri Lanka corridor	High	Very High	High
Chesapeake Bay (Baltimore)	Medium	High	High
Panama Canal	High	High	High
Brisbane to Melbourne	High	Medium	Medium
Yeosu	High	Low	Medium
Malacca Strait	Medium	High	Medium
Cape Hope	Medium	Very High	Medium
North-West Atlantic	Low	Medium	Low
North Pacific	Low	Medium	Low

As indicated in the table above, three of the nine case location (the Sri Lanka Corridor, Panama Canal and Chesapeake Bay) were considered a high priority location due to the exposure and sensitivity in these locations. To increase the understanding of the exposure and sensitivity related to marine mammals, we analyzed Sri Lanka and Chesapeake Bay in more detail in the section "Deep dive into specific trade lanes from the priority locations".

7 The local biological considerations are based on feedback from biologists during stakeholder dialogue.

8 Sensitivity is drawn from Halpern et al.'s (2008) cumulative-impact matrix, refined with species life-history traits into four tiers: Low (<0.2), Medium (0.2–0.5), High (0.5–0.8), and Very High (>0.8).

9 We defined priority as the synthetic rating that emerges when relative exposure (vessel-hours in the zone) is combined with sensitivity (species vulnerability). Both metrics were first normalized to a 0–1 scale. Locations where either normalized exposure or sensitivity exceeded 0.75 were classified as high priority, those between 0.4–0.75 as medium priority, and below 0.4 as low priority. This approach ensures that sites with egregiously high vessel traffic or exceptionally vulnerable fauna are flagged.

Evaluate dependencies and impacts on nature

Identification of environmental assets, ecosystem services, and impact drivers
In the "Evaluate" phase, we assessed the impacts and dependencies of our operations on biodiversity through the analysis in various geographical locations. Due to the global and dynamic nature of our operations, it is challenging to generalize the impacts and dependencies of our operations on biodiversity and ecosystems. We therefore selected specific areas to assess, and engaged with stakeholders, including biologists, research institutions, NGOs, peers, and investors, to gain insights into the drivers of biodiversity loss and the potential impacts of our activities within these case areas.

Identification and measurement of dependencies and impacts
Based on comprehensive stakeholder input, combined with research on shipping impacts and TNFD guidance, we assessed the various case locations for adverse impacts and evaluated its materiality using methodology from Science-Based Targets Network's Sector Materiality Tool[10]. This tool helped us select and evaluate drivers of biodiversity loss and whether we had any potential or actual impacts that we could score based on scale, scope, irremediability.

In addition to scale, scope, and irremediability, we considered the likelihood of each impact occurring, and whether mitigation measures were already in place, heavily regulated, or required further development. It became evident that underwater noise pollution and whale strikes represented significant impacts that required further focus in our biodiversity work. See the box below for how we assessed impacts on two specific trade lanes.

10 Science Based Targets Network (SBTN). (2023). Materiality Screening Tool (Version 1) [Excel spreadsheet]. https://sciencebasedtargetsnetwork.org/wp-content/uploads/2023/05/SBTN-Materiality-Screening-Tool-v1.xlsx

Deep dive into specific trade lanes from the priority locations

Together with HUB Ocean, we decided to evaluate how two specific trade lanes impact ecologically sensitive areas and particularly marine mammals. Firstly, we focused on the Traffic Separation Scheme outside the coast of Sri Lanka where we have an ambition to follow the voluntary framework and avoid impact on whales, and secondly, we evaluated on one of our most frequented routes towards Baltimore which crosses Chesapeake Bay.

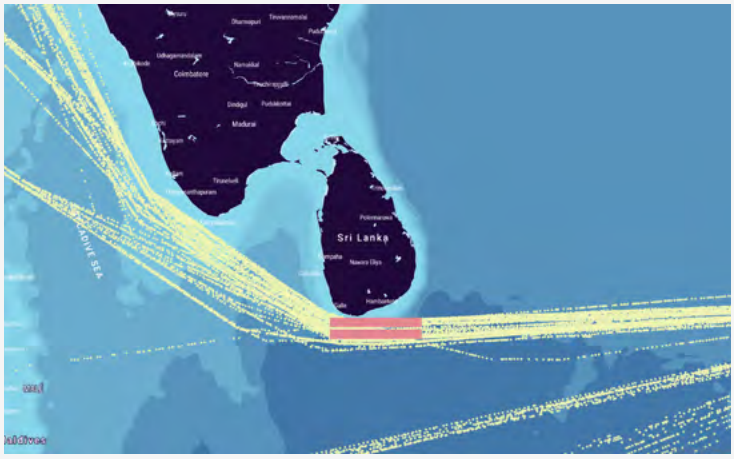


Illustration of whale zone and our activity in Sri Lanka.

Illustration of whale zone and our activity in Chesapeake Bay.

In the two cases, we identified our potential impacts by identifying the important biomes the vessels enter, the number of vessel crossings and the percentage of annual ship hours within each granular data point. The ecologically sensitive areas were mapped by using data from legally protected areas (WDPA and PSSAs), and voluntary, scientifically recognized data (KBAs and EBSAs), as well as information on whale-density hotspots from the World Shipping Council's Whale Chart[11]. In this way, we combined important considerations with various data layers that could be affected by our operations.

Corridor	Main biomes	Sensitive area data	% of Vessel-Hours in Zone	Potential impact
Sri Lanka	Marine shelf (M1) Shoreline systems (MT1) Brackish tidal (MFT1)	PSSA; WSC Whale Chart	12 %	Vessel strike
Chesapeake Bay	Artificial marine systems (M4) Coastal inlets & lagoons (FM1) Brackish tidal (MFT1)	WDPA; EBSA; Seasonal Whale Zones	8 %	Noise disturbance

11 World Shipping Council. Whale Chart (2024): https://www.worldshipping.org/whales

Impact materiality assessment

Below is an aggregate view of the various drivers of nature change, impact drivers and activities from our global shipping operations that could cause impacts. The shade of colouring refers to a higher or lower aggregate score of impact based on scale, scope, irremediability and likelihood[12]. Our operations in the high seas and near shore shipping activities generally have lower impacts than operations in channels and harbours based on the cases we selected. It is also evident that GHG emissions, underwater noise and shipping strikes represent the potential for highest impacts from our shipping operations.

Drivers of nature loss		Impacts of shipping operations				
Drivers of nature loss	**Impact drivers**	**Activity examples**	**High Seas**	**Straits/ channels**	**Near Shore**	**Harbors**
Land, freshwater and ocean-use change	Terrestrial ecosystem use	N/A				
	Freshwater ecosystem use	N/A				
	Marine ecosystem use	Shipping lanes, routing, anchoring				
Resource exploitation	Water use	Cleaning vessel, anchors				
	Other resource use	N/A				
Climate change	GHG emissions	Vessel emissions				
Pollutions	Non-GHG air pollutants	Sox, Nox, VOC				
	Water pollutants	Oil spills, vessel coating, chemicals				
	Soil pollutants	N/A				
	Solid waste	Waste sent to landfill/food waste				
Invasive species and other disturbances	Disturbances	Under water noise				
	Disturbances	Vessel strikes				
	Disturbances	Birds				
	Biological alterations	Invasives from ballast water, hull fouling, or cargo				

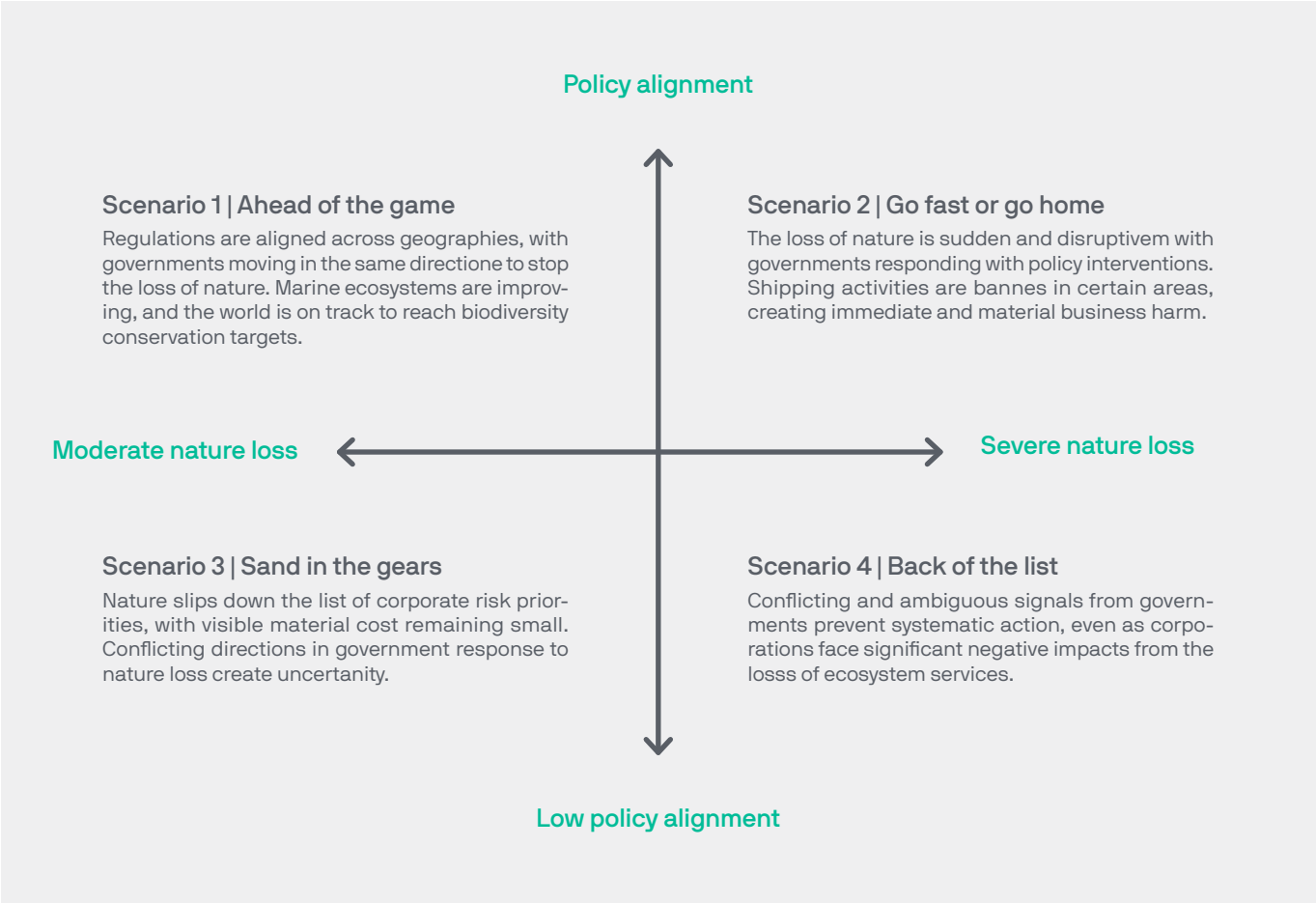
Assess nature-related risks and opportunities

Risk and opportunity identification

In the “Assess” phase, we examined material nature-related risks and opportunities using scenario planning following the TNFD’s Guidance on scenario analysis[13]. The risks and opportunities were assessed in a workshop on physical and transition risks, using TNFD recommended scenario planning towards 2030, 2040 and 2050 horizon. The workshop included members from the sustainability team, risk team and external experts, and reviewed the resilience of the business against the following scenarios:

12 Each factor were scored from 0-5, with 5 being the highest, then aggregated to provide a shade of colour. The guiding questions to assess scale, scope, irremediability and likelihood in our qualitative assessment were the following: Scale: How grave (or beneficial) is the impact? Scope: How widespread is the impact? Remediability: Can the impact be reversed or fixed after it has occurred? Likelihood: What are the chances of the impact occurring?

13 Task Force on Nature-related Financial Disclosures (TNFD). Guidance On scenario analysis: https://tnfd.global/publication/guidance-on-scenario-analysis/#publication-content



Adjustment of existing risk mitigation and risk and opportunity management
Scenario planning proved valuable in evaluating our business resilience concerning nature and biodiversity. We considered the physical risks for the direct shipping operations to be low, but the transition risk to be higher as sector-specific topics such as protection from invasive species, conservation of maritime territories and underwater radiated noise may become more regulated.

Risk and opportunity materiality assessment, measurement and prioritization
Due to the high level of compliance and integrated management system procedures across the organization, we concluded that we are well prepared for different scenarios whether this entails higher or lower regulatory interventions and higher or lower magnitude of nature loss. We recognize that systemic or physical risks disrupting supply chains may have a significant impact across businesses with global value chains. This can be dire for our business partners, end-consumers and our company, and it stresses the importance of managing nature and biodiversity in a way that does not lead to natural disruptions but rather environmentally sustainable value creation and conservation.

Prepare to respond and report

Strategy and resource allocation plans

Following the global biodiversity assessment on ocean operations, we developed a biodiversity strategy. The strategy is structured and informed by the mitigation hierarchy of the TNFD and the Global Montreal-Kunming Biodiversity Framework[14]. The strategy aims to support the integration of biodiversity considerations into the overall business strategy and risk management processes and ensure that these issues are addressed holistically. Going forward, we aim to further embed biodiversity considerations into strategic planning and decision-making processes, ensuring alignment with environmental targets and synergies. The focus of strategy for our shipping operations is to avoid and reduce impact and contribute positively with more knowledge about the ocean.

We shall actively protect biodiversity and improve ocean knowledge

Protect and avoid important ocean territories	Minimize impact on marine ecosystems	Increase insights to restore ocean health
Mange risk of invasive species ● Reduce risk of invasive species through Balllast Water Management, Biofouling Management, Cargo inspection and treatment **Conserve important territories** ● Avoid the arctic territory, recognizing its importance to the state of the oceans ● Avoid/minimize operations in biodiversity sensitive areas and particulary areas important for cetaceans	**Manage pollution** ● Reduce air pollution through operational and technical efficiencies, and by transitioning to alternetive fuels ● Reduce risk of water spills through detection, monitoring and training ● Reduce noice pollution across our operations	**Collect and share data for research** ● Engage with reasearch institutions in need of ocean data ● Collect data by utilizing technologies inetalled on vessels ● Promote partnerships that publicly share data

Allocating sufficient resources to biodiversity initiatives is essential for the successful implementation of action plans and reducing adverse impacts. We have not yet established specific action plans to accompany these strategic goals, but aim to strengthen our measures that mitigate drivers of nature loss and continue to learn and collect data that research institutions need to advance ocean knowledge.

Target setting and performance management

Setting measurable and quantifiable science-based targets is key to monitoring performance and reducing impact from our operations. Once further guidance on setting science-based targets for the maritime sector and specifically for global shipping companies becomes available, we will set biodiversity targets. Following our complete biodiversity assessment, including logistics operations, upstream and downstream value chain, we seek to set targets based on the latest recommended methodology.

14 TNFD refers to the SBTN AR3T mitigation hierarchy definitions: https://sciencebasedtargetsnetwork.org/companies/take-action/

Reporting and presentation
The LEAP approach has shaped our disclosure strategy, ensuring that we report on material nature-related dependencies, impacts, risks and opportunities with transparency and consistency on an annual basis. In our annual report we describe our LEAP approach and provides disclosures in line with the European Sustainability Reporting Standards (ESRS). This supports interoperability with the TNFD's Disclosure Recommendations. We report on our current mitigation measures and strategy, focusing on ocean operations and areas of material impact. As our biodiversity assessment expands across the value chain, we will continue to enhance the clarity and relevance of our reporting.

Outcomes and next steps

Expand value chain assessment: In this use case, we focused on our direct ocean operations. Going forward, we will analyze our land-based operations in more detail and set material thresholds for the sites that are adjacent to or locat within ecologically sensitive areas. We will also start planning the assessment of our upstream and downstream value chain. This is important to obtain a comprehensive understanding of our dependencies, impacts, risks and opportunities in order to develop a complete group-wide biodiversity strategy.

Define metrics for performance management: We need to define metrics that will support the goals and strategic levers defined in our ocean strategy. We already have several important measures in place to mitigate actual and potential impacts from invasive species, disturbances and pollution which are important drivers of biodiversity loss. These measures include managing the risk of transporting invasive species, conserving important territories for species, managing the risk of pollution, and supporting research with data collection. To effectively monitor the effect of these measures, we need to define clear key performance indicators and metrics. This will enable efficient performance management and help us to reduce adverse impacts and understand our risks and opportunities in further detail.

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