

How-To Guide for Mangrove-Positive Lending

Actionable Roadmap for Financial Institutions

Prepared for:



By:

MAGNITUDE
GLOBAL FINANCE

EXECUTIVE SUMMARY

Purpose of the Roadmap

This report provides financial institutions with a practical roadmap for developing mangrove-positive lending approaches that contribute to achieving the Mangrove Breakthrough's targets, reducing physical risks to assets, and unlocking the wide range of business opportunities that mangroves present. By guiding financial institutions through a systematic approach to mangrove-positive lending, this roadmap enables institutions to generate revenue, manage risk, and access new markets while directly supporting the conservation and restoration of these critical coastal ecosystems.

Financial institutions that implement mangrove-positive lending approaches position themselves to capitalize on emerging regulatory requirements, growing international capital flows,¹ and increasing client demand for sustainable financing solutions, all while contributing to the protection of one of the world's most valuable and threatened ecosystems.



Why This Matters Now

Regulatory Compliance: Emerging regulations globally are increasingly tightening requirements on deforestation-free supply chains. These frameworks extend to mangrove forests, creating immediate and anticipated compliance obligations for financial institutions lending to exporters of commodities like palm oil, beef, timber, cocoa, coffee, rubber, and soy (e.g., under the EU Deforestation Regulation). Non-compliance could restrict borrowers' market access, in turn, posing material credit and repayment risks for lenders.

Access to Capital: International financial institutions are actively seeking local banking partners capable of originating and managing environmental lending portfolios. Sustainable finance represents a rapidly expanding market segment where mangrove-specific products, pipeline, and expertise create competitive differentiation.

Risk Mitigation: Coastal assets protected by healthy mangroves demonstrate measurably lower exposure to storm surge, erosion, and freshwater salinization, reducing portfolio climate and nature risk. Recent studies estimate that mangroves reduce coastal flooding damages by as much as \$82 billion annually.²

Portfolio Growth Opportunity: Mangrove-positive lending opens access to underserved growth sectors including sustainable aquaculture, ecotourism, and restoration projects while meeting increasing borrower demand for sustainable finance solutions.

Roadmap Summary

STEP 1. BUILD AN INTERNAL BUSINESS CASE

Identify relevant incentives

Map regulatory requirements and environmental policies, portfolio growth, and risk mitigation benefit potential specific to your institution

1.1

Identify barriers to mangrove-positive lending

Address common obstacles including minimum investment thresholds, high transaction costs, staff capacity gaps, regulatory complexity, and land rights issues

1.2

Size the market opportunity

Estimate the size of the potential loan portfolio of mangrove-positive businesses, and use publicly available geospatial maps to evaluate the number of clients dependent on mangroves for climate and environmental risk reduction

1.3

Present the case internally

Present mangrove-positive lending as a risk mitigation and portfolio growth opportunity rather than an additional environmental initiative

1.4

STEP 2. PILOT A MANGROVE-POSITIVE APPROACH

Set clear success metrics and objectives

Establish measurable financial performance, environmental impact, and institutional learning objectives before launch

2.1

Identify & select pilot businesses and activities

Screen existing pipeline for "do-no-harm" approaches by excluding loans that degrade mangrove areas, screen for positive attributes, and select mangrove-positive businesses that best meet success criteria

2.2

Implement & document the process

Develop loan product, record all processes, stakeholder engagements, and outcomes to enable systematic evaluation and replication

2.3

Analyze pilot outcomes

Analyze outcomes of the pilot to inform scaling

2.4

STEP 3. SCALE AND ACCESS INTERNATIONAL CAPITAL

Evaluate pilot and ensure institutional learning

Implement comprehensive staff training, adopt standardized assessment tools, and build internal expertise networks

3.1

Access international capital and global partnerships

Partner with development finance institutions, climate funds, and specialized credit facilities that offer concessional capital for environmental investments

3.2

Establish monitoring, reporting and continuous improvement

Create comprehensive tracking for both financial performance and environmental outcomes with third-party verification capabilities

3.3

Regulatory alignment and policy advocacy

Stay current with developing environmental regulations, international standards, and disclosure requirements that may impact mangrove-positive lending; contribute to the development of industry standards and best practices

3.4

INDICATIVE OUTCOMES AND TIMELINE

Immediate (0-6 months)

Internal opportunity scoping, awareness raising, adoption of tools

Short-term (6-18 months)

Pilot execution, process refinement, and initial partnership development

Medium-term (18-36 months)

Loan repayment and capital recycling, portfolio expansion, international capital access, and specialized product development

Long-term (3+ years)

Market leadership in environmental finance, diversified revenue streams, and measurable portfolio risk reduction

About the Mangrove Breakthrough

The Mangrove Breakthrough, co-designed with the Global Mangrove Alliance, is a global movement and guiding force for systemic change — redefining how mangroves are valued, financed, and embedded into climate and economic agendas. It brings together governments, investors, civil society, and local communities with the mission of mobilizing \$4 billion to secure the future of over 15 million hectares of mangroves by 2030. The Breakthrough was launched at COP27 and advances sector-specific goals:

1. **Halt loss:** reduce net human-driven mangrove loss to zero
2. **Double protection:** ensure long term protection for 80% of remaining mangroves
3. **Restore half:** restore mangroves to cover at least half of all recent loss
4. **Drive sustainable finance** to existing mangrove extent

About This Report

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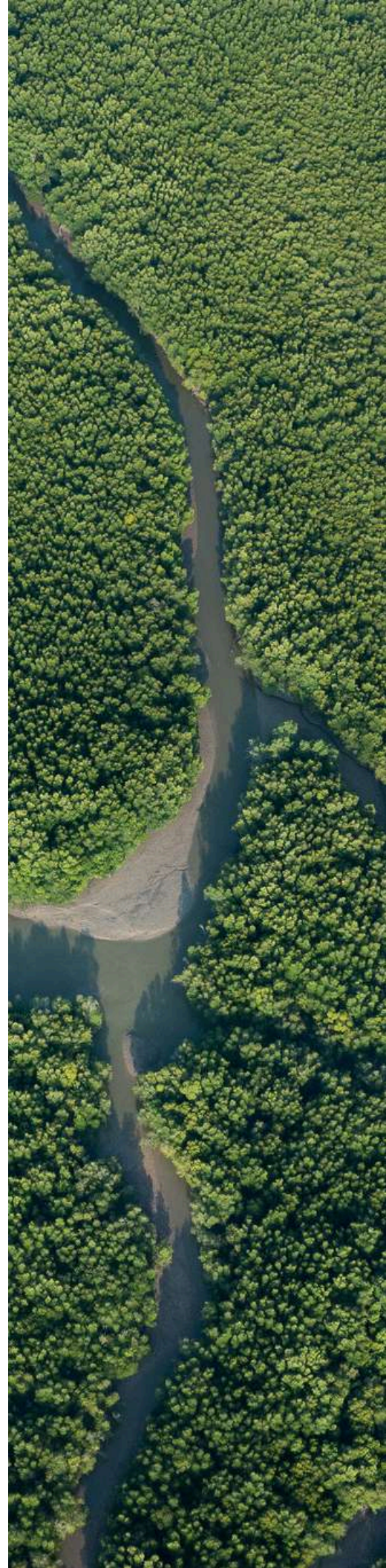
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DEFINITION OF A MANGROVE-POSITIVE BUSINESS

What are Mangrove-Adjacent Businesses and Mangrove-Positive Business Models?

What is mangrove-positive? Mangrove-positive is a global goal to halt and reverse mangrove loss, measured from a baseline in 2020, by increasing mangrove protection, restoration, sustainable management, and transforming systems to address the underlying drivers of mangrove loss. By 2030, mangrove forests should be visibly and measurably on the path to recovery. By 2050, mangrove ecosystems must be fully restored, delivering meaningful benefits to nature, people, and the economy.

What is a mangrove-positive business contributor?

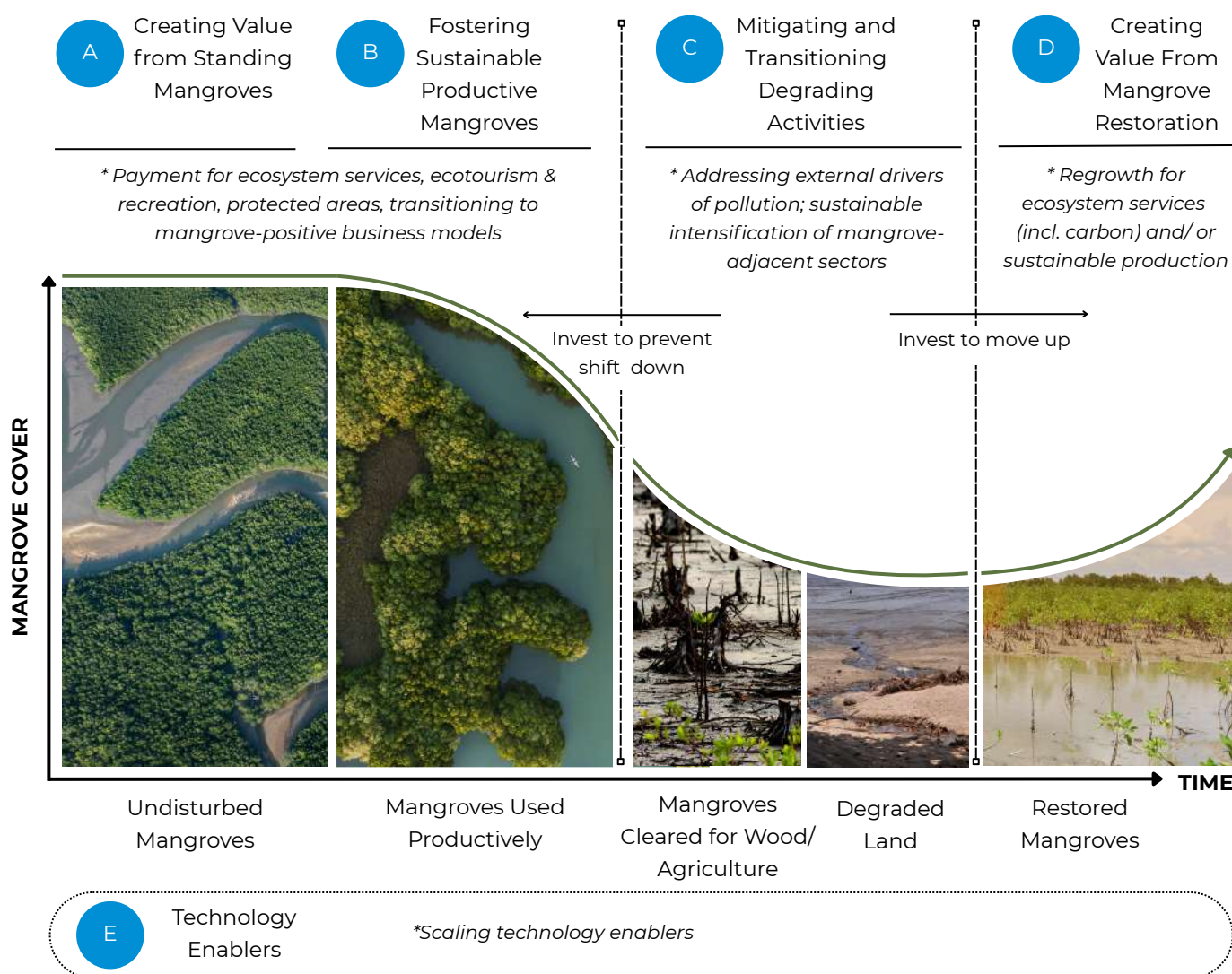
A mangrove-positive business contributor is one that sustainably derives value from, depends on, and/or benefits from mangrove ecosystems, and that channels finance and/or business practices toward their conservation, restoration, and/or address underlying threats to the ecosystem. These businesses include, but are not limited to, those in coastal agriculture and aquaculture, sustainable resource use, blue carbon projects, infrastructure, hospitality and tourism, as well as other downstream corporate actors.

Consequently, for this purpose, we will define mangrove-adjacent businesses as those that may not operate directly within mangrove landscapes, but whose activities influence, depend on, or benefit from mangrove ecosystems.

These Mangrove-Positive Business models can be viewed along a spectrum, best illustrated in the Mangrove Transition Curve (Figure 1) on the page below:



Figure 1: The Mangrove Transition Curve













Note: Mangrove Transition Curve. Adapted from “The Mangrove Breakthrough Financial Roadmap”, by Jennifer Ring et. al, page 30. Copyright 2003, by Systemiq and the Mangrove Breakthrough. Adapted with permission

Illustrative Mangrove-Positive Businesses and Priority Sectors

Beyond traditional conservation and restoration projects, a wide range of sectors hold the potential to be considered mangrove-positive. Inclusion in the table below does not in itself confirm eligibility; rather financial institutions should still assess businesses using the steps outlined in the following sections. The examples in Figure 2 on the page below are intended to be illustrative rather than exhaustive.

Figure 2: illustrative mangrove-positive business sectors

	Sector	Illustrative Businesses	Description	Mangrove Impact Transition Curve
	Ecosystem Services (provisioning, regulating, cultural & supporting services)	Payment for Ecosystem Services (PES) scheme	Water treatment facility plants mangroves to filter pollutants and improve water quality	Creates value from standing mangroves A
	Sustainable Tourism & Hospitality	Eco-lodge near mangrove reserve	Ecotourism activities that encourage conservation & support restoration	Creates value from standing mangroves A
	Non-Timber Forest Products (NTFP)	Nutraceutical products from mangroves	Bioactive compounds like flavonoids & tannins are sustainably harvested reducing impact to standing mangroves	Fosters sustainable products B
	Coastal Fisheries & Aquaculture	Sustainable shrimp farm	New models like integrated mangrove-shrimp farming and Integrated Multi-Trophic Aquaculture (IMTA) present sustainable alternatives to conventional shrimp farming that preserve mangroves ³ .	Fosters sustainable products Mitigates degrading activities B C
	Coastal Infrastructure	Ports & shipping terminals	Ports and shipping terminals sustainably designed to integrate mangrove buffers	Mitigates degrading activities C
	Waste Management & Recycling	Coastal plastics recycler	Recycling operations preventing plastic pollution that degrades mangrove ecosystems	Mitigates degrading activities C
	Renewable Energy	Solar mini grids for fishing villages	Renewable energy offers alternative to mangroves as fuel source	Mitigates degrading activities C
	Near Coastal Agriculture & Agri-Processing	Rice farm	Farmers plant “mangrove buffers” to protect against saltwater intrusion	Creates value from restoring mangroves D
	Blue Carbon	Mangrove restoration project	Project developer finances mangrove restoration project generating carbon credits	Creates value from restoring mangroves D
	Financial Services	Insurance & risk finance products	Innovative insurance products price health of mangrove ecosystems into policies, incentivizing communities to maintain or protect mangroves to protect against loss from storm surge and rising sea levels	Technology enabler E

ROADMAP FOR INVESTING IN MANGROVE POSITIVE BUSINESSES

Step 1. Building the Internal Case for Mangrove-Positive Lending: Incentives, Barriers, and Strategies

1.1 IDENTIFY INCENTIVES RELEVANT TO THE INSTITUTION

Building a successful case for mangrove-positive lending within an institution requires identifying the specific motivating factors that will resonate with leadership and align with strategic priorities. Whether or not the institution has previously considered mangroves in lending decisions, emerging regulations, market trends, and business opportunities are creating both risks and opportunities that make mangrove considerations increasingly relevant for commercial banks. The following guidance will help identify which drivers are most relevant to the institution, what types of barriers stand between the institution and increasing financing for mangroves, and how to leverage the institutional incentives identified to build internal consensus and momentum to address barriers and develop mangrove-positive lending approaches. Different institutions will be motivated by different drivers — some may be primarily concerned with regulatory compliance, others with accessing new capital sources, and still others with portfolio risk management or business growth opportunities.

The key to building internal support is demonstrating how mangrove-positive lending directly advances the institution's existing goals and addresses its specific challenges. This requires a systematic assessment of the institution's regulatory operating environment, commitments, and strategic priorities to identify the most compelling incentives.



READER EXERCISE

Understand which incentives will be most motivating to *your* institution. Review the options below thinking about how they apply to your institution. Fill in the checklist below to begin cataloguing the leverage points that will help you build the case internally for developing mangrove-positive lending practices and products.

Checklist: Incentives for a mangrove-positive approach

Regulatory Compliance	
Internal Policy Alignment	
Capital Market Access	
Revenue Generation	
Risk Mitigation and Portfolio Diversification	
Reputational Value and Brand Development	



ILLUSTRATIVE EXAMPLE

A regional bank is considering a \$2 million loan to expand a palm oil processing facility that sources from smallholder farmers in coastal areas with significant mangrove coverage.

The borrower's primary revenue comes from selling refined palm oil to European food manufacturers. Under EUDR requirements, the borrower's customers must demonstrate that none of their palm oil is sourced from areas that were cleared of mangroves after 2020. Without proper traceability systems in place, their buyers may switch to competitors with clearer EUDR compliance documentation, impacting the borrower's repayment capacity.

Negative scenario: The bank does not consider mangrove impacts in its loan screening and credit underwriting processes, unknowingly exposing itself to repayment risk.

Positive scenario: The bank understands the role of mangroves in the EUDR, and through the loan origination process is able to ensure that the borrower is monitoring its producers to mitigate EUDR compliance risk, thus gaining a competitive advantage over rival palm oil processors who do not understand how exposure to mangrove deforestation risk impacts their ability to participate in international supply chains.

Identifying local and regional organizations — from government agencies to NGOs and academic programs — that are working on mangrove research is a critical first step that will provide the institution a source of up-to-date and context-specific knowledge on mangroves.

Regulatory compliance. Financial institutions face mounting pressure from new environmental regulations that could significantly impact both their operations and client relationships. A prime example is the EU Deforestation Regulation (EUDR), which takes effect for most companies on December 30, 2025. This regulation requires companies to prove that certain agricultural products (and certain derivative products) sold in EU markets are not linked to deforestation, with mangrove explicitly included in their definition of forests.^{3, 4}

Emerging environmental regulations create both risks and opportunities for lenders (see side bar). Those that fail to screen for compliance face potential exposure to loan defaults, stranded assets, and reduced portfolio valuations as their clients struggle to meet regulatory requirements. Conversely, lenders that proactively develop mangrove-positive lending approaches can help borrowers demonstrate compliance more easily, making these clients more attractive to international buyers while reducing their overall regulatory risk profile. For institutions that lend to mangrove-adjacent businesses, emerging environmental policies and regulations have three key implications:

- *Supply chain compliance requirements.* Companies exporting forest-risk commodities and many of their derived products like palm oil, beef, timber, cocoa, coffee, rubber, and soy, are increasingly required to demonstrate that their supply chains are free from ecosystem degradation and deforestation. When these companies source from mangrove-adjacent producers, they need monitoring systems that include mangrove areas, as non-compliance could result in market access restrictions that impact borrowers' ability to repay loans.

- *Categorical exclusion risks.* Borrowers may be excluded from lucrative supply chains altogether if buyers perceive compliance as too complex and risky, particularly those operating in mangrove-rich coastal areas where deforestation monitoring can be more challenging.
- *Competitive advantage through proactive compliance.* Financial institutions that develop mangrove-positive lending approaches can help borrowers align with emerging environmental regulations, making these clients more attractive to international buyers and reducing their regulatory risk profile.

Furthermore, many countries with mangrove ecosystems have established or are developing environmental regulations that could impact lending decisions. It is important to understand how mangroves are treated in relevant national environmental and climate policies. Developing lending approaches that are aligned with national environmental regulation could help create a competitive advantage and attract businesses that operate in impacted coastal areas

Internal policy alignment. For lenders with specific climate change and or ESG policies or commitments, understanding how implementing a mangrove-positive strategy would contribute to these objectives can be a powerful lever for building the case internally. Healthy mangroves can contribute to climate change resilience and community adaptation, help mitigate emissions, and provide a long list of environmental benefits, including towards the United Nations Sustainable Development Goals (SDGs).

Increased access to capital. International financial institutions are increasingly earmarking funds for specific ESG and climate criteria, creating significant opportunities for banks that can demonstrate environmental lending expertise (see side bar). Within this broader trend, ocean finance represents a rapidly expanding segment where mangrove conservation and restoration are prioritized outcomes. Developing a robust mangrove-positive lending portfolio could be a strategy to attract international capital to expand

ILLUSTRATIVE EXAMPLE



The #BackBlue Ocean Finance Commitment is a UN-backed initiative launched in 2021 that commits international financial institutions with \$3.45 trillion in assets under management to aligning their financial policies to accelerate the transition to a healthy ocean economy, aiming to drive at least \$500 million of investment into coastal and ocean regeneration and resilience by 2030. Members have committed to adopting net-zero plans as well as Taskforce on Climate-related Financial Disclosure (TCFD) and Taskforce on Nature-related Financial Disclosures (TNFD) reporting, a significant catalyst for them to prioritize these matters in investment decision making.





ILLUSTRATIVE EXAMPLE

Ecotourism: A local hotel wants to establish kayaking tours as a service offering to attract more and higher-paying guests. The hotel requests a loan to conserve and restore mangroves adjacent to their beachfront. The loan finances mangrove clean-up, replanting, and a monitoring and reporting mechanism to ensure the mangrove is not disturbed. The borrower demonstrates that comparable hotels that are adjacent to healthy mangroves and offer kayak tours have higher revenue, effectively making the business case for this loan.

lending capacity, as international financial institutions (IFIs) actively seek partners capable of originating and managing mangrove-positive lending portfolios. Institutions that establish this expertise can potentially increase liquidity through multiple channels, including green or blue funding lines, and specialized credit facilities that prioritize environmental outcomes and SDG alignment in their partner selection criteria.

Portfolio growth. Mangrove-positive lending approaches present portfolio growth opportunities for lenders. Mangrove-positive lending opens access to underserved but growing sectors including sustainable aquaculture, ecotourism, and mangrove restoration projects, allowing institutions to diversify revenue streams and capture first-mover advantages in emerging market segments (see side bar). This approach enables institutions to meet increasing demand from borrowers actively seeking sustainable finance solutions to support their own environmental commitments, plans, and market positioning. Additionally, institutions can tailor financial products to the characteristics of mangrove-positive business models, creating differentiated offerings that expand lending portfolios by driving borrower demand into new areas and driving revenue growth.

Risk mitigation. Mangrove-positive lending presents significant downside risk mitigation opportunities for coastal investments. Mangroves enhance the resilience of coastal assets by providing natural protection for infrastructure, tourism, and agricultural investments against storm surge, soil erosion, and salinization. Borrowers operating in mangrove-adjacent areas with healthy ecosystems demonstrate measurably lower exposure to climate and nature-related physical risks compared to areas denuded of mangroves, reducing repayment risk and improving creditworthiness. The ORRAA Coastal Risk Index tool (see side bar below) provides a geospatial map with risk reduction considerations including estimates of avoided financial loss.

Portfolio diversification. Mangrove-positive lending also enables banks to add exposure to resilient, nature-positive businesses and projects. This approach allows institutions to





ILLUSTRATIVE EXAMPLE

strategically reduce concentration risk in sectors that are vulnerable to environmental regulations and climate-related disruptions. Furthermore, developing expertise in mangrove-positive finance can position institutions as local and regional leaders in the rapidly expanding sustainable finance market, creating valuable institutional knowledge and capabilities that can be leveraged across multiple business lines.

Reputational value & brand development. Proactive mangrove-positive lending differentiates institutions as environmental leaders, creating competitive advantages with retail customers, corporate clients seeking sustainable finance partners, and international institutions prioritizing environmental criteria in partnerships. Conversely, financing that contributes to mangrove degradation exposes institutions to headline risk from increased environmental scrutiny and emerging litigation risk as communities pursue legal action against funders of harmful projects. These risks can be mitigated through proactive mangrove-positive approaches.

1.2 IDENTIFY BARRIERS TO MANGROVE-POSITIVE LENDING

For entities that are exploring mangrove-positive lending for the first time, it is critical to understand why mangroves are not currently part of decision-making so that a strategic approach can be developed that targets specific barriers. These barriers vary by region, country, and institution but often include a combination of the following:

Misunderstanding of mangrove-positive investments.

Financial institutions tend to categorize mangroves among sustainability investments, not commercial opportunities. Viewing mangrove-positive loans through a sustainability lens, revenue generating and risk mitigating potential is not communicated effectively.

Limited understanding of mangrove-positive business models.

Credit officers may struggle to evaluate business plans that incorporate ecosystem services, restoration activities, or nature-based tourism without proper training on these topics.

Coastal Resilience: Two years after the hotel completed its mangrove restoration project, a major Category 3 hurricane struck the island. The hotel that invested in mangrove restoration suffered minimal structural damage – primarily cosmetic repairs to outdoor furniture and landscaping –and was able to reopen within one week. In contrast, competing hotels along the same coastline without mangrove protection experienced severe flooding, damaged foundations, and destroyed beachfront infrastructure, requiring 3-6 months for repairs and costing an average of \$1 million per property. The restored mangroves absorbed storm surge energy and prevented erosion that would have undermined the hotel's beachfront structures. While the original loan for mangrove restoration supported a revenue-generating amenity, it ultimately functioned as natural infrastructure that protected the bank's collateral. The hotel maintained cash flow by reopening quickly, ensuring continued loan payments, while competitors struggled with insurance claims and temporary closures that impaired their debt service capacity.

Land rights and ownership issues. Mangrove areas can have complex, overlapping, or unclear ownership structures involving government agencies, traditional communities, and private parties. This ambiguity can create a barrier to establishing clear collateral arrangements and assessing project feasibility.

Regulatory complexity. The intersection of environmental regulations, international standards like EUDR, and traditional banking compliance creates a complex landscape that many institutions find difficult to navigate. Staff may lack clarity on which regulations apply to their borrowers and how to incorporate environmental compliance into credit risk assessment.

Minimum investment thresholds. Many institutions have minimum loan sizes that exceed the typical financing needs of small-scale mangrove-positive businesses. For example, some institutions have minimum thresholds between \$250 thousand and \$1 million,⁵ while many ecotourism operators, sustainable aquaculture projects, or community-based restoration initiatives require smaller amounts, creating a mismatch between available financing and market demand. (See Tip for Practitioners box on side).

The barriers to mangrove-positive lending are not insurmountable. Misunderstanding can be addressed through targeted staff training and awareness building; minimum investment thresholds can be overcome through aggregated approaches, partnerships, or blended finance structures; and complex land rights and regulatory challenges can be navigated with the support of legal experts, civil society partners, and standardized tools. The exact solutions will need to be tailored to each institution's context, but tools such as those in the box on the page below, and similar resources, can help institutions think through practical approaches. Ultimately, what matters most is approaching with an understanding of the main barriers and a few promising pathways to address them.

1.3 SIZE THE MARKET OPPORTUNITY

Understanding the size of the business opportunity for mangrove-positive lending is crucial for understanding the potential to grow

READER EXERCISE



Understand which barriers are most salient for *your* institution. Review the common barriers below thinking about how they apply to your institution. Fill in the checklist to begin cataloguing the barriers that must be to develop mangrove-positive lending practices and products.

TIP FOR PRACTITIONERS



A potential solution to address small ticket sizes is to bundle multiple loans to small businesses within similar industries, such as ecotourism operators, aquaculture enterprises, or sustainable mangrove commodity producers to reduce transaction and due diligence costs. Partnering with cooperatives, producer associations, or NGOs can help identify, screen and support these borrowers, enabling financial institutions to achieve minimum investment thresholds while reducing transaction costs.

your portfolio and to understand the institution's exposure to losses if mangroves are not included in risk management screening. These are two critical drivers of building internal support. How many potential clients are mangrove-adjacent or mangrove-dependent? What is the potential for risk mitigation to the institution's portfolio? Estimate these elements to justify the focus on mangroves.

Understand total addressable market(how many potential clients are mangrove-adjacent or mangrove-dependent?).

Begin by cross-referencing potential customer data with publicly available geospatial maps, such as those provided by [Global Mangrove Watch](#), or [Restor](#) which are open-source, regularly updated, and country-specific. Determine which businesses operate within five kilometers of a mangrove ecosystem.⁶ Mangrove-dependent businesses can be approximated by applying the sectoral guidance on page 3 above. Since mangrove-dependencies vary greatly by sector and business type, it may be helpful to choose a subset of businesses that are relevant to the institution's portfolio. For example, if the portfolio has significant experience in lending to aquaculture, fisheries, and hospitality assets, consider focusing the market sizing on these familiar customer types.

Institutions can identify mangrove-adjacent businesses not only by their proximity to mangrove areas but also by assessing whether their core operations rely on mangrove products. To do so, institutions can use tools such as [ENCORE](#) (Exploring Natural Capital Opportunities, Risks, and Exposure) to systematically map sectoral dependencies on coastal ecosystems like mangroves. The Taskforce for Nature Related Financial Disclosures (TNFD) has curated a full list of nature-related tools [available here](#).

Estimate risk reduction potential. Existing mangrove-adjacent borrowers are by their nature in proximity to coastal areas, making them likely to face risks such as sea-level-rise, storm surge, coastal erosion, and soil and freshwater salinization. These risks can be converted to financial terms using the institutions risk calculation methods. They can be estimated simply using the [ORRAA Coastal Risk Index tool](#) and or the [AXA Coastal Risk Index tool](#).

Checklist: Barriers to Mangrove-Positive Lending

Misunderstanding of mangrove-positive investments	
Limited understanding of mangrove-positive business models	
Competitive pressures	
Land rights and ownership issues	
Regulatory complexity	
Minimum investment thresholds	

USEFUL TOOLS



These reports discuss strategies for overcoming barriers to nature-based solutions investing:

- [Increasing Success and Effectiveness of Mangrove Conservation Investments: A Guide for Project Developers, Donors, and Investors](#)
- [Financing Nature-Based Solutions for Coastal Protection](#)

READER EXERCISE



How many businesses and projects does your institution currently support within 25 kilometers of a mangrove ecosystem? Use the [Global Mangrove Watch tool](#) to identify those investments.

Once businesses are identified, estimate their capital needs. How much capital will they need? What is the intended use of proceeds? What type of collateral is available (if any)? What is the likely profile for repayment in terms of loan tenor and repayment plan? To obtain this information, a combination of data analysis and customer outreach is likely the best approach. By reaching out directly to potential borrowers, the institution can also gauge their interest in and ability to comply with the requirements of a mangrove-positive loan product.

1.4 PRESENT THE CASE INTERNALLY

Equipped with the analysis conducted in Sections 1.1 to 1.3, present the case to management. This section provides guidance on how to communicate effectively with internal stakeholders to build support for development and implementation of mangrove-positive lending approaches.

Identify key stakeholders. Map the internal approval chain for new lending initiatives, including credit committee members, risk management leadership, sustainability officers (if they exist), and business line heads. Understanding who influences lending and portfolio development decisions helps determine where to focus internal advocacy efforts.

Build a coalition of internal champions. Identify colleagues who may be interested in a mangrove-positive initiative, or who have expertise in related areas. In addition to the stakeholder groups above, this might include staff with ESG responsibilities, those with experience in agricultural lending, or relationship managers who work with coastal businesses. Having multiple advocates across different departments strengthens the internal case.

Find or develop local case studies. Research and document successful mangrove-positive businesses operating in the region, even if they are not current clients. Focus on companies that demonstrate clear revenue generation, job creation, and financial sustainability. Quantify their economic impact where possible, including revenue figures, employment numbers, and growth trajectories.

USEFUL TOOLS



Completing the outreach and analysis will result in an estimate for the total number of businesses eligible, average size and tenor of potential loans, and the composition of the borrowers for a pilot project. With this information, perform the following calculations:

ELIGIBLE BUSINESSES \times
ESTIMATED AVERAGE
LOAN SIZE $=$
TARGET MARKET

BORROWERS IN PILOT
POOL \times
ESTIMATE AVERAGE LOAN
SIZE $=$
SIZE OF PILOT LOAN
PROGRAM



Demonstrate competitive necessity. Frame mangrove-positive lending not just as an opportunity but as a competitive necessity. Show how regulatory changes, client demands, or peer bank initiatives are creating market pressures that require a response. This urgency can help overcome institutional inertia.

Step 2. Pilot A Mangrove-Positive Approach

After securing leadership-level endorsement for pursuing mangrove-positive lending, develop a pilot for the approach. A well-structured pilot program serves as the foundation for scaling mangrove-positive lending across the institution. Effective pilots require systematic planning, clear success metrics, and robust documentation to generate actionable insights for future expansion. The following sub-steps described in this section are important to selecting and implementing the right pilot project:

1. Set clear success metrics and objectives
2. Identify and select the pilot businesses or activities
3. Implement and document the process
4. Analyze the outcomes

2.1 SET CLEAR SUCCESS METRICS AND OBJECTIVES

Establishing clear success metrics is essential before launching the pilot program. The institution must define specific objectives upfront to determine whether the initiative succeeds or fails. These predetermined criteria serve dual purposes: they guide loan officers in identifying optimal opportunities and enable management to assess the approach's scalability and replication potential.

Consider partnering with a local civil society organization to support setting these targets. Environmental non-profits and academic research organizations will have up-to-date context-specific expertise on local mangroves, and are likely to be receptive to partnership with a financial institution that is considering mangrove-positive lending. This can be done through a simple memorandum of understanding, as such an arrangement can create a simple and mutually beneficial partnership.



READER EXERCISE



What metrics would be key for your institution to track in a pilot activity? Metrics should include both financial and environmental performance.

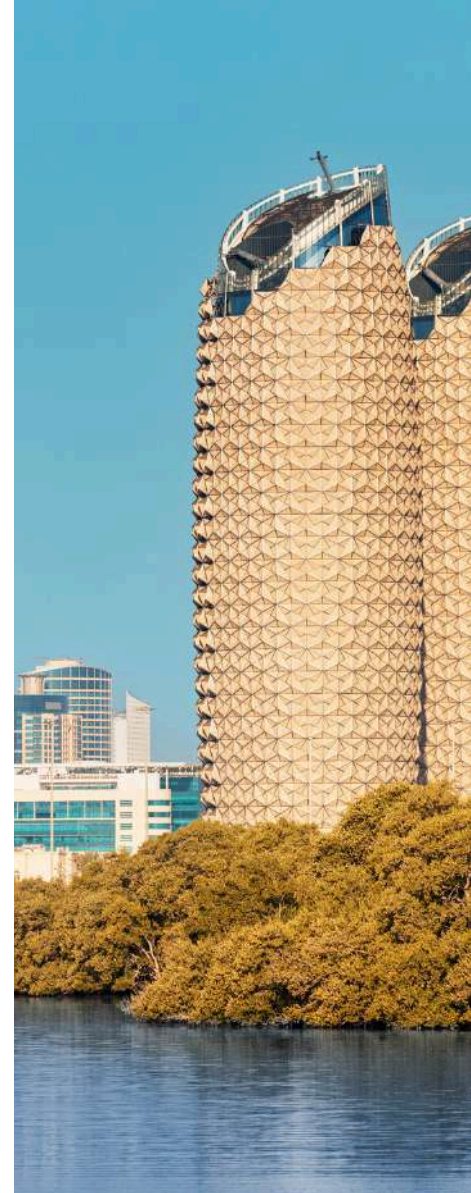
Define measurable outcomes before launching the pilot.

Success in mangrove-positive lending requires both financial performance and environmental impact metrics. The institution should establish specific, measurable objectives that align with both commercial goals and conservation outcomes in the following categories:

- Financial metrics, including traditional banking indicators to measure loan performance, including default rates, return on investment, and profitability. The financial metrics should also seek to capture the risk reduction benefit (avoided losses) derived from the mangrove-positive approach.
- Mangrove-positive environmental outcomes. These indicators will be sector specific but might include hectares of mangrove habitat protected and/or restored and biodiversity conservation outcomes, at minimum. The Global Oceans Accounts Partnership also provides a full list of potential indicators of mangrove health ([linked here](#)).
- Institutional learning outcomes measured should focus on building internal capacity and refining processes. These include staff competency in mangrove investment analysis, lessons-learned from screening applicants for mangrove-positive opportunities, and evaluating the success and challenges encountered in any civil society partnerships initiated.
- Measure bankability frictions, such as the time and cost required to obtain permits, sanitary certifications, cash-flow seasonalities, etc. during the pilots so that the bank can target priority pain points to address after the pilot.

Adopt mangrove impact measurement standards. Ensure that a specific outcome evaluation tool or framework is identified for any mangrove-specific indicators tracked against corporate sustainability commitments.

Establish realistic impact timeline expectations. It is crucial to understand the expected timelines for measurable impact from the specific mangrove-positive aspects of the chosen pilot.



Risk reduction benefits from protecting standing mangroves are enjoyed immediately, while benefits from sustainable use and restoration activities will vary depending on the type of intervention.

2.2 IDENTIFY AND SELECT PILOT BUSINESSES AND ACTIVITIES

Identify mangrove-adjacent businesses in current pipeline and portfolio. Using the tools and methods described above in Step 1, begin by identifying mangrove-adjacent businesses in the current pipeline or portfolio of existing borrowers. These current applicants or existing borrowers are the most likely to be interested in piloting a new loan product.

Apply screen for a do-no-harm approach. At its most basic, a mangrove-positive approach must ensure that the institution does not lend to businesses or activities that harm

mangrove ecosystems. Using the Environmental and Social Risk Management (ESRM)* system to ensure that lending activities are screened for the potential to harm mangrove ecosystems is a critical first step. Exclusion criteria are a blunt but useful tool. This can include explicitly excluding financing for activities that result in the clearance, degradation, or conversion of mangrove ecosystems. A comprehensive list of sector-specific exclusion criteria recommended by the IFC Sustainable Blue Finance Initiative is available online [here](#).

Apply screen for mangrove-positive outcomes. Beyond a “do-no-harm” approach, a mangrove-positive investment must demonstrate specific benefits for mangroves and or the communities that live adjacent to them, directly contributing to the restoration, protection, and or sustainable use of mangroves as an integral outcome of the investment (see Figure 3, the mangrove-positive checklist on the next page below). Identifying these mangrove-positive businesses and activities efficiently is a critical component of developing a mangrove-positive lending approach. Loan officers should evaluate loan applications to determine if the proposed use of proceeds would finance activities that contribute to the high-level goals of the Mangrove Breakthrough and can be mapped along the Mangrove

*NOTE: If the institution does not have an ESRM system, consider whether developing or adopting one would be feasible and attractive to the management team. The International Financial Corporation (IFC) offers extensive resources, available [here](#).

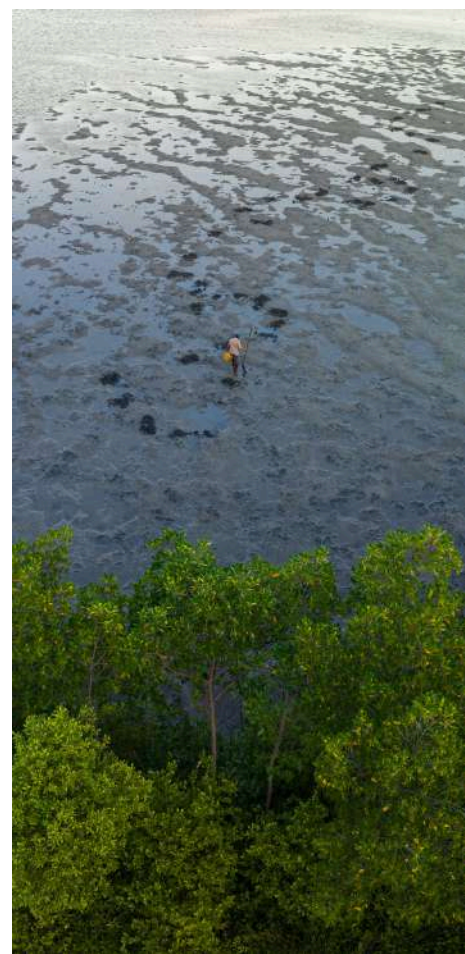
Transition Curve (A) through (E) in the graphic on page 2. If more detail is required, sector specific use-of-proceeds guidelines should fit with industry-accepted guidance such as that provided by the Asian Development Bank, IFC, and the International Capital Markets Association, available [here](#) on page 6.

Figure 3: Mangrove-positive actions checklist

	Mangrove Positive Impact	Illustrative Actions a Business Can Take	Checklist
A	Creating value from standing mangroves	<ul style="list-style-type: none"> Adopt business models that protect existing mangrove forests Incorporate mangrove-related ecosystem services into business models or business value propositions 	
B	Fostering sustainable productive mangroves	<ul style="list-style-type: none"> Develop, source, or finance sustainably-harvested mangrove-derived products 	
C	Mitigating and transitioning degrading activities	<ul style="list-style-type: none"> Reduce or eliminate pollutants or land-use practices that degrade mangroves Transition supply chains or business operations, away from products or activities that actively degrade mangroves 	
D	Creating value from mangrove restoration	<ul style="list-style-type: none"> Rehabilitate degraded mangrove ecosystems Introduce mangroves where none previously existed 	
E	Enabling transformation	<ul style="list-style-type: none"> Scale or introduce a new technology or innovation that protects mangroves 	

Actively source opportunities. If after screening against the criteria above, there are no mangrove-positive loan applicants in the institution’s pipeline or portfolio, consider actively sourcing options via a request for proposals, or leveraging relationships with local chambers of commerce, industry associations, NGOs, and government agencies involved in coastal management to identify potential borrowers. Consider hosting information sessions for businesses operating in coastal zones to raise awareness of the new lending approach.

Select businesses or activities. Every institution will have a distinct path to selecting a pilot mangrove-positive investment. The most important criteria when selecting a pilot is to identify businesses or activities that have a strong chance of achieving the success metrics defined by the institution in Step 2.1 above. After applying the new screening and intake procedures to determine which loan applicants or existing customers with ongoing financing needs in the current pipeline fit the criteria



for mangrove-positive businesses, prioritize those that are most strongly aligned to maximize the chance of a successful pilot, including adjacent chains with near-term bankability (coastal hotels/eco-lodges, efficient cold chain, water/effluent treatment, recycling/ logistics). It is also crucial to establish a clear communication channel with the borrowers to ensure necessary data and lessons learned can be collected on an ongoing basis.

2.3 IMPLEMENT AND DOCUMENT THE PROCESS

Design and implement loan products. At this stage of pilot implementation, banks should carefully design loan products and covenants that balance risk appetite with incentives for borrower participation. To encourage participation, banks can consider offering lower introductory or reduced interest rates, grace periods, or performance-based pricing that reward mangrove-positive actions. Embedding such terms into pilot loan structures will allow banks to test both the commercial viability and borrower appetite, generating results that can inform the design of a more long-term mangrove-positive lending approach. In the long run, the cost of reduced interest rates can be offset by the avoided losses from lower portfolio risks provided by healthy mangroves, as well as by the upside of generating strong borrower demand for sustainable lending products.

Consider partnering for capacity building support. If capacity building is needed either within the bank or for borrowers, consider reaching out to local civil society organizations such as social and environmental non-profits, universities, or international NGOs with coastal environmental conservation programs. These types of organizations are often looking for, or are open to, partnerships with the private sector that help them advance their environmental objectives and could be a good resource for sourcing potential investment deal flow.

Create detailed records. Throughout the pilot process, record all decisions and actions to enable systematic evaluation and replication. Documentation should capture decision-making rationale, procedural modifications, stakeholder interactions, and both quantitative and qualitative outcomes.

ILLUSTRATIVE EXAMPLE



Mangrove-positive businesses in mangrove value chains:

It is important to highlight that mangroves are often impacted by businesses higher up in value chains that touch mangrove ecosystems. A primary example would be the mangrove crab industry in the Philippines. The sixth largest aquaculture segment in that country, mangrove crab businesses bring livelihoods benefits to many but can have significant negative impacts on mangroves, largely due to over harvesting of wild crabs and destructive practices in the collection of crablets that underpin much of the aquaculture production. Businesses that provide technology enablers, such as improved crablet production systems, water filtration devices, and enhanced feedstocks can be significant contributors to mangrove health, and should be considered as part of mangrove-positive lending approaches.

Document application of mangrove screening and do-no-harm approaches. Process documentation should include loan application modifications, ESRM procedures, and approval workflow changes. Record time investments required for enhanced environmental screening and any additional external expertise utilized. Document staff training needs identified during the process, and any interim solutions implemented.

Record stakeholder engagements. Stakeholder engagement records should capture interactions with borrowers, mangrove experts, civil society partners, and regulatory bodies. Note communication strategies that proved effective and areas where additional relationship-building is still needed.

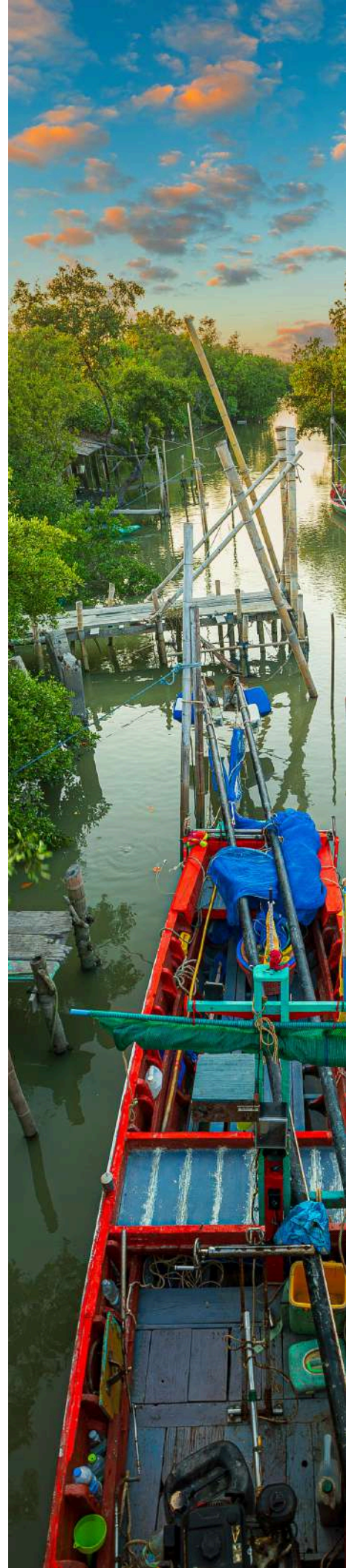
Track financial and operational processes. Monitor loan processing times, additional costs incurred, and any process efficiencies gained. This baseline data will inform cost-benefit analyses for scaling the approach across the institution in Step 3 described below.

2.4 ANALYZE PILOT OUTCOMES

Effective outcome analysis requires systematic data collection, standardized metrics, and regular reporting cycles that include cost-effective monitoring and practical impact assessment tools and frameworks.

Conduct first analysis post loan disbursement. This initial analysis should focus on process compliance. Confirm that loan proceeds are being used for intended mangrove-positive activities, and document any procedural lessons learned during the loan origination process. Capture borrower feedback on the application and approval process to refine future procedures. This early engagement phase typically requires site visits and monthly check-ins during the first six months to address operational issues before they impact both financial and environmental outcomes.

Allow sufficient time before analyzing impact metrics. Ideally, environmental and biological impact metrics will be analyzed by trained professionals. This could be a member of the



institution's staff or a civil society partner. Mangrove ecosystems can require extended timeframes to demonstrate measurable environmental benefits. Avoid the temptation to draw conclusions from short-term data fluctuations, as natural systems exhibit seasonal and cyclical variations that can mislead analysis if not properly contextualized. Global products that evaluate variation in mangrove cover over time can also be useful, such as [the Global Mangrove Watch](#) or [the Global Intertidal Change Tool](#).

Measure financial metrics in-line with institutional practices. Apply standard banking performance indicators to maintain consistency with existing portfolio management processes while recognizing the unique characteristics of mangrove-positive investments. Monitor traditional metrics including payment performance, collateral value changes, borrower financial health, and loan-to-value ratios using established institutional reporting cycles and risk assessment frameworks. It may be necessary to adjust risk evaluation criteria to account for the longer payback periods common in natural asset investments and the potential for reduced long-term climate risk exposure. Document any variations in financial performance patterns compared to similar conventional loans. Consider developing supplementary financial metrics that capture the value of ecosystem services, such as reduced insurance costs from coastal protection benefits or premium pricing for sustainably produced goods, to provide a more comprehensive view of the investment's financial performance.

Step 3. Evaluating & Scaling Mangrove-Positive Finance

Following successful pilot implementation, institutions can systematically evaluate outcomes and develop strategies for scaling mangrove-positive lending in their business strategy. Guidance in this step will help transform pilot insights into institutional capabilities and links to international funding sources dedicated to nature finance.



3.1 EVALUATE PILOT AND ENSURE INSTITUTIONAL LEARNING

Communicate pilot outcomes. Following a similar internal awareness raising approach to that developed for Step 1, it is now crucial to turn the insights developed through the pilot (Step 2) into actionable recommendations targeting institutional decision makers to secure buy-in for replication and scaling of the mangrove-positive lending approach.

Assess scalability potential. Determine which pilot elements can be replicated through new loans, and which require adaptation for different market segments, geographic regions, or types of mangrove-impact. Evaluate the pilot's alignment with institutional risk appetite, capital allocation strategies, and growth objectives. Consider whether the mangrove-positive approach has created competitive advantages or new revenue opportunities that justify expansion.

Develop standardized project packages. Financial institutions should consider developing standardized project packages for the common mangrove-positive business types in the country, such as ecotourism, fisheries, aquaculture, or waste recycling, to help streamline credit assessment, reduce transaction costs, and ensure consistency across loan types. These standardized project packages might include sector-specific sustainability standards, due diligence check-lists, and key performance indicators (KPIs) that align with both national and international best practices. They should also outline information for loan officers regarding business seasonality, simplified monitoring requirements, and technical assistance needs to facilitate efficient loan processing and risk management. If adopted, this approach should be designed with technical inputs from mangrove experts in government or civil society.

Calculate return on investment for mangrove-positive approach. Quantify the total cost of implementing the pilot program, including staff time, training expenses, and enhanced due diligence procedures. Compare these costs against any financial benefits measured, such as improved loan performance, potential to access new markets, avoided loss, regulatory compliance value, and reputational benefits.



If the decision is made to scale mangrove-positive lending, the key elements of the pilot phase will have to be scaled to match the target for mangrove-positive lending.

This analysis will inform business case development for board-level expansion approval.

Implement training program. Based on pilot experiences, develop tailored staff training curricula. Loan officers require training on mangrove business model evaluation, understanding the opportunities for mangrove-positive lending, and ecosystem services valuation. Risk management teams require training on the new policies and procedures for ESRM. Executives and board members should be made aware of the new mangrove-positive approaches, benefits to investing in mangrove conservation, restoration, and sustainable use, and provided with talking points to ensure proper messaging.

Adopt standardized tools and frameworks. Integrate proven assessment tools from the pilot phase into operating procedures for the expanded loan offering. This includes updated loan intake and credit underwriting procedures such as geospatial mapping tools for identifying mangrove-adjacent businesses, ESRM screening approaches, and standardized reporting templates. Consider adopting internationally recognized standards such as the [Task Force on Nature-related Financial Disclosures](#) (TNFD) to align with global best practices and facilitate international partnerships.

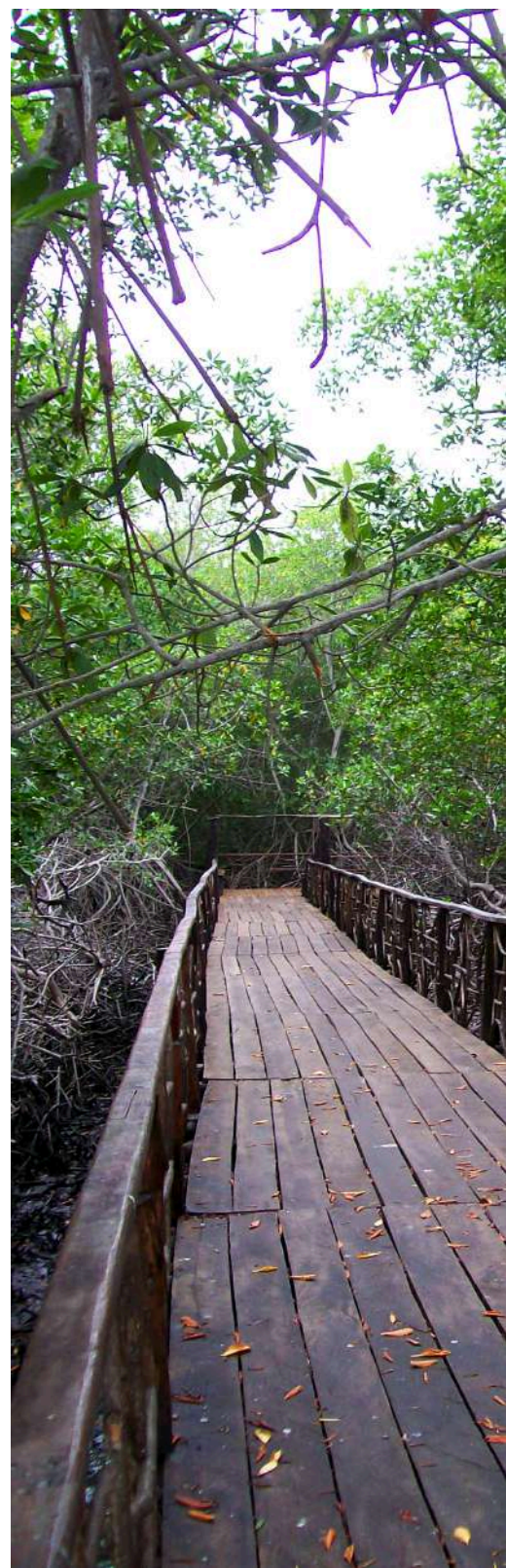
Build internal expertise network. Identify and develop internal “mangrove champions” to serve as mangrove finance specialists across different business lines. Create cross-functional teams that include representatives from credit, risk, sustainability, and business development to ensure an integrated approach to mangrove-positive lending. Establish regular knowledge-sharing sessions to disseminate lessons learned and best practices. This network of mangrove-champions is crucial to successfully scaling and sustainably managing the mangrove-positive lending approach.

Seek outside support. Staff capacity building is a good opportunity to start building partnerships with local civil society organizations. The guidance in this roadmap strives

READER EXERCISE



Which roles in *your institution* do you think would require or benefit from additional capacity building to institutionalize a mangrove-positive lending approach?



to be widely applicable; however, the specific dynamics of coastal investments in any geography can vary significantly. Local social and environmental NGOs, academic programs, and international NGOs with local presence can all be good resources for staff capacity building. Reaching out to representatives from civil society organizations that deal with mangroves can also be important for future interactions including potentially additional training, pipeline identification, data collection, and investment monitoring support.

3.2 ACCESS INTERNATIONAL CAPITAL AND GLOBAL PARTNERSHIPS

While the benefits from mangrove-positive lending should yield significant returns to the institution in terms of avoided risk and revenue from new or expanded product lines, it may take time to build the evidence base to demonstrate the precise level of impact. Blended finance approaches that combine private commercial finance with public concessional or philanthropic grant funding can help overcome some of the barriers to mangrove-positive lending and serve as a funding bridge to help build the case that investing in mangroves is a financially sustainable endeavor. Structuring a mangrove-positive blended finance arrangement can generate liquidity and reduce financial risk. In some cases, grant capital can forge technical partnerships by funding technical assistance support both for borrowers (to increase environmental impacts) and for the institution (to train staff and build internal capacity).

Steps to consider for structuring a blended finance product that manages portfolio risk and scales institutional lending for mangrove-positive businesses and activities are:

Determine need for blended capital. Based on the results of the pilot project, assess the remaining risks or gaps that need to be addressed in order to scale up. Were default rates too high? Was the interest rate target too low? Were transaction costs too high?



Is the institutional capital constrained or over its allocation in the sector under which mangrove-positive lending falls? Are there perceived risks from upper management levels that are preventing them from buying in? Answers to these questions will help identify the risks and the type of blended finance that will be most appropriate to mitigate them.

Figure 4: Blended finance solutions

Risk	Blended Capital Solution
High default rates	Loan guarantees or subordinated debt (first loss)
Interest rate too low to cover costs/be profitable	Low interest debt, grants to cover startup/scale up costs
Capital constraints	Low interest debt or line of credit off the bank's balance sheet

Map international funding opportunities. Once the major risks and funding gaps have been identified, the next step is to identify IFIs, multilateral development banks, development finance institutions (DFIs), and climate funds that prioritize mangrove conservation, restoration, and sustainable use. Key sources include the World Bank Group, regional development banks, and bilateral development agencies with sustainable finance mandates. Multinational banks that have public climate, nature, or other sustainability commitments should also be considered. Research specific eligibility criteria, application processes, investment modalities, and partnership requirements for each institution to identify which international institutions offer strong partnership potential.

Participate in international initiatives and networks. Join networks such as the Sustainable Blue Economy Finance Initiative, the Natural Capital Finance Alliance, and regional banking associations focused on environmental finance. These platforms provide access to market intelligence, technical resources, and potential co-investment opportunities while enhancing the institution's visibility among international partners.





ILLUSTRATIVE EXAMPLE

Banco Davivienda and IFC Biodiversity Bond for Mangroves (Colombia):

In 2024, Banco Davivienda issued a biodiversity bond with backing from the International Finance Corporation (IFC) of up to \$50 million earmarked for lending to businesses that meet specific biodiversity criteria. Davivienda committed 10% of proceeds (\$5 million) specifically for loans that achieve mangrove restoration outcomes.

Building on Davivienda's established mangrove restoration pilots (including projects in El Salvador's Barra de Santiago and Panama's coastal sites), the bank demonstrated operational expertise that enhanced investor confidence in institution's ability to achieve impact.

Implement portfolio diversification strategies. Build a diversified mangrove-positive portfolio across sectors (e.g., aquaculture, eco-tourism, restoration, sustainable fishing), geographic regions, and business sizes to minimize concentration risk. Establish portfolio limits and sector allocation targets that balance growth objectives with risk management requirements. Monitor portfolio performance against traditional banking metrics while tracking environmental outcome indicators.

Leverage multinational commercial banks as capital providers. Small transaction sizes and limited local market presence can make direct lending to mangrove-positive small and medium enterprises (SMEs) prohibitively challenging for international commercial banks. However, these institutions can serve as critical liquidity providers to local banks through structured on-lending arrangements that enable mangrove-positive lending at scale.

Negotiate use-of-proceeds credit facilities. Financial institutions should approach multinational commercial banks and development banks to establish credit facilities with defined use of proceeds specifically for mangrove-positive lending. These arrangements allow international banks and development banks to support environmental outcomes while leveraging local institutions' market knowledge and SME relationships. Structure these facilities with clear covenants requiring proceeds to fund mangrove-positive activities as defined by the screening criteria developed in Step 2. (*Source:* Key informant interviews and web sources including [here](#).)

Consider portfolio buy-back arrangements. International commercial banks increasingly seek exposure to environmental assets through portfolio acquisitions from local institutions. Negotiate agreements where multinational banks purchase existing loan portfolios through real or synthetic securitization structures. This approach frees up capital for mangrove-positive lending while providing international banks with desired environmental exposure without direct origination requirements.



Create origination incentive structures. Design liquidity arrangements that create clear incentives for continued mangrove-positive lending. This may include pricing advantages for facilities backed by mangrove-positive portfolios, volume-based pricing tiers that reward portfolio growth, or performance bonuses tied to environmental outcome achievement. Ensure that liquidity terms encourage sustained commitment rather than one-time transactions.

Document environmental impact credentials. Prepare comprehensive documentation demonstrating the institution's capacity to originate, monitor, and report on mangrove-positive investments. International commercial banks will likely require evidence of environmental impact measurement capabilities, portfolio performance tracking, and regulatory compliance before committing liquidity. This documentation should include pilot program results, staff expertise credentials, and partnership relationships with civil society organizations tied to specific technical services they provide.

Negotiate technical assistance components. Many multinational commercial banks and DFIs can provide technical assistance alongside liquidity arrangements, including staff training, risk management system enhancement, and environmental impact measurement support. These technical components add value beyond capital provision and help strengthen the institution's long-term capacity for environmental finance.

3.3 ESTABLISH MONITORING, REPORTING, AND CONTINUOUS IMPROVEMENT

Implement comprehensive monitoring systems. Develop systematic approaches for tracking both financial and environmental performance across the mangrove-positive portfolio. Establish regular reporting cycles that capture loan performance metrics, environmental outcome indicators, and portfolio risk assessments.





Develop environmental outcome verification procedures.

Establish partnerships with environmental monitoring organizations, academic institutions, or specialized consultancies that can provide third-party verification of environmental claims and outcomes.

Establish feedback loops for continuous improvement.

Create mechanisms for incorporating lessons learned from ongoing lending activities into policy and procedure updates. Regularly review and update screening criteria, risk assessment tools, and environmental impact measurement approaches based on emerging best practices and scientific understanding. Maintain active engagement with the broader sustainable finance community to stay current with evolving standards and opportunities.

3.4 REGULATORY ALIGNMENT AND POLICY ADVOCACY

Ensure compliance with evolving regulations. Stay current with developing environmental regulations, international standards, and disclosure requirements that may impact mangrove-positive lending. Regularly review and update internal policies to maintain alignment with changing regulatory landscapes, particularly regarding climate risk disclosure, nature-related financial risk reporting, and sustainable finance taxonomies.

Engage with regulatory authorities. Participate in regulatory consultations and industry working groups focused on environmental finance and sustainable banking practices. Share lessons learned from mangrove-positive lending implementation to inform policy development and advocate for regulatory frameworks that support environmental finance growth while maintaining prudential banking standards.

Contribute to industry best practice development. Share experiences and lessons learned through industry publications, conference presentations, and peer banking networks. Contribute to the development of industry standards and best practices for mangrove and coastal ecosystem finance, helping to create more robust markets for environmental investments across the banking sector.

Mangrove conservation in the Philippines is guided by a well-established but often fragmented policy framework. The Philippine Fisheries Code (RA 8550, amended by RA 10654) designates mangroves as critical fish habitats and prohibits their conversion without proper clearances. The Wildlife Resources Conservation and Protection Act (RA 9147) reinforces this by protecting critical habitats from destruction, while the Local Government Code (RA 7160) devolves day-to-day coastal management to Local Government Units (LGUs), empowering them to enact local ordinances, collect environmental fees, and enforce conservation rules. While the regulatory environment provides a strong legal foundation for mangrove protection, navigating the enforcement of the regulations and overlapping regulatory mandates across multiple government agencies could prove challenging for financial institutions, and require proactive regulatory engagement.

List of Tools Recommended in the Roadmap

CATEGORY	TOOL
Interactive mangrove location and extent maps	Global Mangrove Watch Restor
Interactive coastal risk maps	ENCORE (Exploring Natural Capital Opportunities, Risks, and Exposure) ORRAA Coastal Risk Index tool AXA Coastal Risk Index tool Ocean Ledger
Environmental and Social Risk Mitigation (ESRM) tools	Recommended ESRM exclusion list for sustainable ocean finance from the IFC Sustainable Blue Economy Program IFC Environmental and Social Management System (ESMS) Implementation Handbook
Mangrove key performance indicators (KPIs)	The Global Oceans Accounts Partnership
Other tools	The Taskforce for Nature Related Financial Disclosures (TNFD) tool catalogue

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- [4]** European Commission. (n.d.). Updated guidance document for regulation on deforestation-free products (p. 28).
- [5]** Key informant interviews with several commercial banks in Colombia, Senegal and the Philippines, October 2025.
- [6]** Note that this is a non-exact specification and that local environmental authorities and/or civil society may be better able to refine this parameter based on local context.

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