



Addressing seafood sector
risk in financial markets:

DEFORESTATION AND CONVERSION IMPACTS



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How is deforestation and land conversion linked to seafood, and why does it matter?

Location and siting of farms

- 1 Siting of aquaculture operations near, in, or connected to marine and coastal habitats can lead to **land-use change, deforestation and habitat degradation**.
- 2 Coastal ecosystems, such as wetlands and mangrove forests, may be threatened, degraded or destroyed, leading to a **loss of important habitat and species** that rely on them, including many endangered, threatened or protected (ETP) species.
- 3 50% of global mangrove forests have been lost since 1940. **Shrimp pond aquaculture**, often located in coastal areas where mangroves and other wetlands are present, is a major driver in some tropical countries, responsible for up to half of the losses in those areas.
- 4 Land-use change and deforestation in coastal ecosystems also **disrupts their ability to provide vital ecosystem services** to people, biodiversity and climate. For example, mangroves act as **coastal 'green' infrastructure**, providing protection from storm surges and flooding.
- 5 Mangroves are also **significant carbon sinks** – storing up to 4x the amount of carbon compared to terrestrial forests. Coastal wetlands also provide watershed regulation, **maintain water quality**, and serve as vital habitats and nurseries for fish, including many **important commercial species**.



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How is deforestation and land conversion linked to seafood, and why does it matter?

Aquaculture Feed

- 1 Deforestation and land conversion risks can also occur in seafood supply chains where **aquaculture feed** is derived from plant-based sources.
- 2 **Soy** is the one of the most commonly used protein sources in aquaculture feed. It is a dense protein that is easily digestible by many species.
- 3 **Soy meal, oils, and other terrestrial proteins** have been used to either partially or fully replace marine fishmeal protein for many species, particularly for salmon.
- 4 Soy is one of the **leading contributors to global deforestation**, particularly in the Amazon. Unsustainable production can lead to deforestation, land-use change, and loss of biodiversity and ecosystem functionality.
- 5 Deforestation impacts from feed production can result in a significant **carbon emissions** in aquaculture seafood supply chains, along with other impacts of onsite farm energy use, transportation, and other factors.
- 6 It is important for companies to not only understand the sources of seafood products, but also the **origins of feed and other raw materials** used in production.

What are the risks of deforestation and land conversion for financial institutions?

1

REPUTATIONAL RISKS

Deforestation in soy-producing countries is a high-visibility issue with the potential to create media and NGO pressure.

Mangroves are globally recognized for their contributions to biodiversity and climate mitigation, companies linked to their deforestation and conversion are at risk of reputational damage.

2

REGULATORY RISKS

Carbon emissions associated with coastal habitat destruction, particularly through mangroves and wetlands, are high.

With increasing requirements by regulators to disclose scope 3 emissions (i.e., those emitted through a company's supply chain), carbon emissions in seafood production and supply chains will become a material issue for seafood companies and FIs needing to measure and manage carbon emissions.

3

MARKET RISKS

Seafood demand markets are increasingly aware of the links between seafood production (particularly shrimp farming in South-East Asia) and land conversion/mangrove deforestation. Market actors are under pressure to commit to deforestation and conversion-free supply chains.

Seafood demand markets are moving towards making it harder to import products with illegal deforestation in their supply chain and are introducing market measures, such as ASC certification, that include provisions for marine and terrestrial feed ingredients.

4

OPERATIONAL RISKS

Loss of mangroves and wetlands can lead to increased risk from flooding and storm surges to local farms and businesses. As aquaculture operations are often family-run small businesses in emerging economies, they often don't have financial resilience or insurance to weather the costs of rebuilding. With the loss of coastal green infrastructure to protect against storms, other coastal assets (e.g., tourism infrastructure) are at risk of increase financial losses.

What should financial institutions do to mitigate these risks?

Financial Institutions should avoid financing activities that have severe negative environmental and social impacts.

AVOID

Where there is evidence that owned and operated farms or farms in supply chain are not located in a legally designated aquaculture zone, or do not have the required legal permit or license, including where farms are located within legally protected areas that do not allow multiple uses, such as High Conservation Value Areas or RAMSAR or UNESCO World Heritage Sites.

DO NOT FINANCE

Ensure the company and its supply chain are not directly or indirectly linked to farms that are sited illegally.

To verify, use the following sources:

- » Company disclosure
- » Public records
- » RAMSAR sites (<https://rsis.ramsar.org/>)
- » High Conservation Value Areas (HCVAs) (<http://www.hcvnetwork.org>)
- » UNESCO sites (<https://whc.unesco.org/en/list>)

What should financial institutions do to mitigate these risks?

Financial Institutions should engage with companies and challenge them to disclose relevant information and ultimately improve practises.

CHALLENGE

Where there is evidence that owned and operated farms or farms in the supply chain are located in sensitive ecological areas, such as mangroves and other wetlands

- 1 Require evidence that farms are located in legal and permitted zones for aquaculture development**
- 2 Require evidence of best practice in planning and development of new sites such as Environmental and Social Impact assessments and mitigation plans**
- 3 Require Accountability Framework Initiative and verification of deforestation and conversion-free aquaculture production and supply chains**
To verify, use the following sources:
 - » Company disclosure
 - » Geo-spatial data

What should financial institutions do to mitigate these risks?

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CHALLENGE

Where there is lack of disclosure and transparency around siting of farms in the supply chain

- ① Require evidence that farms are located in legal and permitted zones for aquaculture development**
- ② Require commitment to farm site disclosure and time-bound implementation of full chain digital traceability, aligning with global best practice guidance and standards, such as the Global Dialogue on Seafood Traceability (GDST) framework**
- ③ Encourage use of geographic coordinates and other spatial data to verify seafood sources and request disclosure of this information**
To verify, use the following sources:
 - ☞ Company disclosure
 - ☞ Geo-spatial data

What should financial institutions do to mitigate these risks?

Financial Institutions should engage with companies and challenge them to disclose relevant information and ultimately improve practises.

CHALLENGE

*Where there is evidence
for – or lack of a clear
policy on – sourcing,
processing, or selling feed
ingredients from areas at
risk of deforestation*

- ① Require the company to enter (or support supply chain companies to enter) into timebound improvement projects towards leading – and where possible – benchmarked aquaculture standards, including relevant feed standards, such as those established by the Aquaculture Stewardship Council (ASC).

To verify, use the following sources:

- Company disclosure and reports
- Feed company procurement records
- NGO tools and reports

What should financial institutions do to mitigate these risks?

Financial Institutions should seek out and support companies that are demonstrating more responsible, traceable, and transparent practices

SEEK OUT

Where companies are demonstrating industry best practices for sustainable and responsible aquaculture and feed production

Opportunities for financial institutions exist in companies where:

- » Have fully transparent aquaculture operations and ownership structures
- » Have implemented or are pursuing implementation of full chain digital traceability, and can demonstrate traceability of products back to geographic source of production
- » Are actively restoring or replacing natural capital through nature-based solutions such as reforestation, or remediation of ecosystems such as mangroves and other coastal wetlands
- » Are meeting feed best practice standards from leading – and where possible – globally benchmarked standards such as the ASC
- » Have evaluated environmental and social trade-offs related to feed and are producing or sourcing the lowest impact alternative
- » Provide products or services that reduce feed consumption, increase efficiency, or decrease feed waste

Thank you

for more information please visit worldwildlife.org