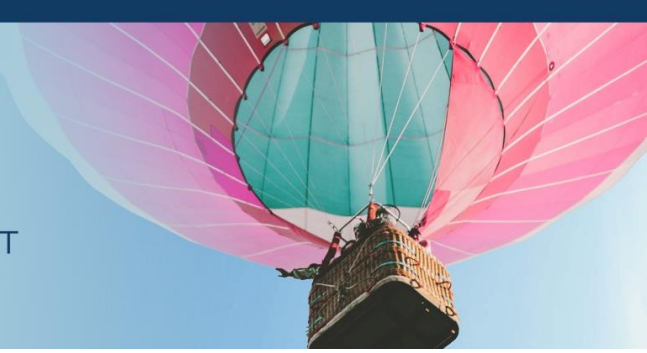


August 2025

Thematic	ESG topics	Sector
Nature	Biodiversity, animal welfare, physical climate risk, stakeholder impact	Consumer Staples

Navigating nature-related risks in the farmed seafood supply chain

ESG considerations for investors: Spotlight on Tasmanian salmon

Nature is increasingly recognised by investors as an important theme, not only for its intrinsic value to the economy but also for its role in mitigating climate change. As biodiversity and ecosystem health are prioritised, attention is turning to industries like seafood which are strongly linked to nature impacts and dependencies.

As Australia's most popular seafood, farmed salmon offers a healthy, efficient and reasonably affordable protein that supports local economies and may even curb wild overfishing. But the industry has drawn considerable public and political attention in Tasmania. As production increases, more stakeholders pay attention and expect responsible operations. This growth also puts greater pressure on the environment, increasing risks such as nutrient pollution and habitat impacts. Balancing food system needs with various community and ecosystem impacts highlights the dynamic ESG (environmental, social, governance) landscape in aquaculture systems.

This article shares five key insights from on-site salmon farm visits and discussions with local stakeholders in Hobart, Tasmania. We offer our views on potential investment risks for salmon retailers and propose company engagement questions, which are also relevant for other aquaculture industries. We also reflect on how these insights apply to wider nature risks and overlap with climate change, social licence and governance.

Context

What did the trip involve?

In June, the ESG and Sustainability team visited Tasmania to gain deeper insights into the environmental, community, and regulatory challenges facing the salmon farming industry. The primary focus was to better understand salmon production, assess the extinction risk of the Maugean skate, and the implications for salmon operations in Macquarie Harbour. We also considered broader nature-related risks within the seafood supply chain and which key issues should be actioned by investors.

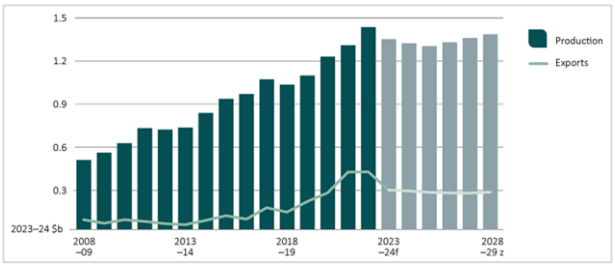
Over the course of two days, meetings with different stakeholders provided us with a range of perspectives, both positive and negative. We visited multiple points across Tassal's value chain, from salmon hatchery, processing facilities, sea pens and remote operations headquarters, which offered a glimpse into modern AI-enabled operations. A special visit to the Institute of Marine and Antarctic Studies (IMAS) highlighted the success of the Maugean skate breeding program. Meetings were also held with the Blue Economy Cooperative Research Centre, NGOs including Neighbours of Fish Farming and Living Oceans, an independent scientist serving on the board of the Tasmanian Environmental Protection Agency, and the Aquaculture Stewardship Council (ASC), an internationally recognised seafood certification organisation.

What makes salmon farming a worthwhile ESG research area?

- **Tasmanian salmon is Australia's largest aquaculture industry**

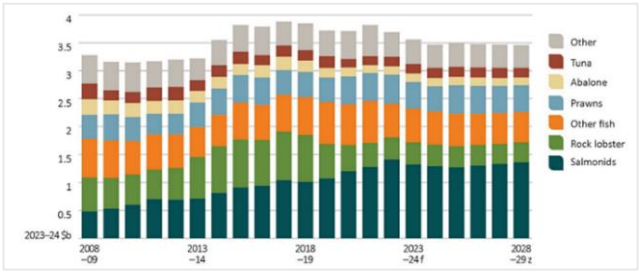
Aquaculture, which is the farming of aquatic organisms like fish, shellfish, and aquatic plants in controlled environments, either in freshwater or saltwater, plays an important role in global food supply. Salmon production has grown rapidly, especially in Norway, Chile, and Scotland, where cold waterways support large-scale operations. Although Australia holds a relatively modest position in the global market, its production has grown significantly, with volumes nearly tripling since 2008. Salmon has emerged as the most widely consumed seafood domestically, highlighting both the industry's advancement in Tasmania and strong local demand.[1] As production continues to grow, environmental risks and the concerns from regulators, community, consumers and NGOs need to be managed accordingly.

Australian Salmonids production and value trends



Source: Australian Bureau of Agricultural and Resource Economics and Sciences

Salmon is a major component of Australian aquaculture



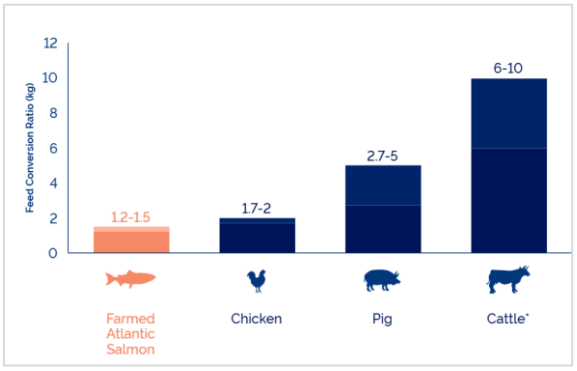
Source: Values represent real gross value, Australian Bureau of Agricultural and Resource Economics and Sciences

- **While salmon can be a sustainable protein, its impact is in the spotlight**

Aquaculture has presented itself as a modern solution to the growing needs of our food systems, offering a good source of omega 3s and seafood that does not exacerbate risks from overfishing wild stock. Salmon is often referred to as a low emissions and efficient protein compared with land-based farming such as beef. The chart below demonstrates this through a feed conversion ratio, or FCR, which measures the productivity of different proteins. FCR represents kilograms of feed required to increase bodyweight by 1kg.

That said, the growth in salmon production has sparked controversy, political scrutiny, and local concerns about environmental impacts including amenity issues, ecosystem damage, biodiversity loss, disease, and pollution.

Feed conversion ratio of different proteins



Source: Global Salmon Initiative

[1] Australian fisheries and aquaculture outlook 2024 - DAFF

Macquarie Harbour, which supports salmon farming due to its freshwater and cool temperatures, also contains the endangered Maugean skate. This species is only found in this water body on Tasmania's west coast, and is threatened by declining dissolved oxygen (DO) levels.

Research links lower DO to an increase in salmon farming between 2005 and 2015.[2] In response, the Environmental Protection Agency (EPA) imposed a 9500 tonne production cap in 2020, later replaced by a nitrogen output limit in 2022. This has contributed to recent improvements in DO levels in the harbour. Despite these measures, extinction risk for the skate remains a primary concern.

Endangered Maugean skate

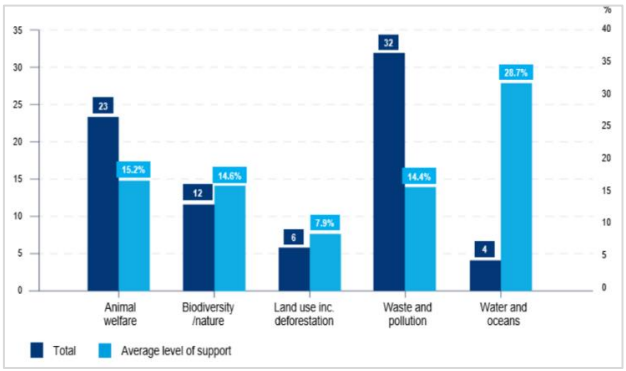
There are only estimated to be 40-120 adult Maugean skates (Zearaja maugeana) remaining in the wild. It is listed as endangered under both Tasmania's *Threatened Species Protection Act 1995* and the *Environment Protection and Biodiversity Conservation Act 1999*.

- **As attention on nature grows, investor knowledge is needed**

Aquaculture is an industry that is highly dependent, and potentially impactful, on nature. The importance of nature is increasingly recognised as an economic driver and a tool to address climate change. Interest in the investment landscape has been reinforced by the Taskforce for Nature Related Disclosures (TNFD) released in 2023, and the OECD specifically including biodiversity considerations in its Guidelines for Multinational Enterprises in 2021.

Relevance to investors is highlighted by 38 biodiversity-related shareholder proposals to listed companies in the last decade[3]. Shareholder interest is particularly notable in the agri-food industry, with over 15% support on nature-specific resolutions such as animal welfare, pollution and water in 2024 alone. We anticipate that similar resolutions will continue in the future and investors should be equipped with a prudent understanding of nature-related risks to vote responsibly and engage effectively with companies.

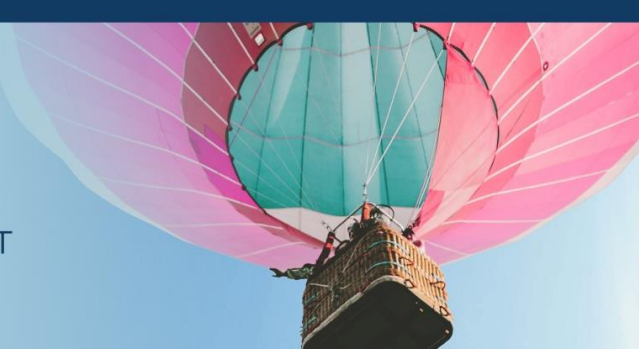
Nature and biodiversity shareholder resolutions by subtopic (2024)



Source: PRI resolution database (4 September 2024)

[2] Conservation Advice for Zearaja maugeana (Maugean skate) September 2023 - DCCEEW

[3] Biodiversity proposals - Planet Tracker (February 2023)



- **Shareholder pressure on Australian food retailers is focussed on seafood supply chains**

In Australia, attention on nature risks has shifted toward major food retailers like Coles and Woolworths, after Tassal and Huon, the leading Tasmanian salmon producers, were sold to foreign owners and delisted from public equity markets. In 2024, shareholder resolutions were submitted to both companies calling to cease salmon sourcing from Macquarie Harbour due to the extinction risk of the Maugean skate. Another resolution called for greater transparency of nature impacts in the seafood supply chain which gained significant support. The resolution filed at Coles gained 39% support, which was the most strongly supported nature resolution in 2024, and one of the highest votes globally for an environmental resolution[4]. Similar resolutions are expected this year, demonstrating sustained investor focus on nature risks in the supply chain and the need for companies to consider mitigation actions and further transparency to address these concerns.

Votes in favour of nature-related shareholder proposals (2024 AGM)

	Identify and report on the impacts of farmed seafood procured for Own Brand products on threatened species under Australia's EPBC Act	Cease procuring farmed salmon for its Own Brand products from Macquarie Harbour in Tasmania by no later than 31 April 2025
COL	39.1%	6.9%
WOW	30.4%	4.9%

- **Evolving global expectations in salmon farming**

Global expectations and regulations related to salmon farming are changing. In 2021, Argentina banned salmon farming in marine cages due to potential ecosystem damages, and more recently in January 2025, Washington State announced a total ban on all open net fin fish aquaculture in state run waters due to cases of negligence causing environmental damage. In 2023, Norway implemented a landmark additional 25% tax on salmon farms to redistribute profits back to the community. While we have not seen similar wide-scale changes in Australia, attention on the industry is likely to remain high given the government's commitment to limiting nature loss and 'no new extinctions' in 2022

[4] Seafood nature risk disclosure | PRI 2024

Trip insights

Tasmanian salmon farming: Four insights from our time on the ground

This section outlines four key findings from site visits to Tasmanian salmon farming operations. The analysis is intended primarily for ASX-listed food retailers, given there are currently no publicly listed salmon producers in Australia.

1. Advanced technology helps mitigate nature impacts, but concerns remain

2. The extinction risk of the Maugean skate has improved

3. Damaged social license and lack of community trust

4. Salmon certification schemes differ in compliance standards

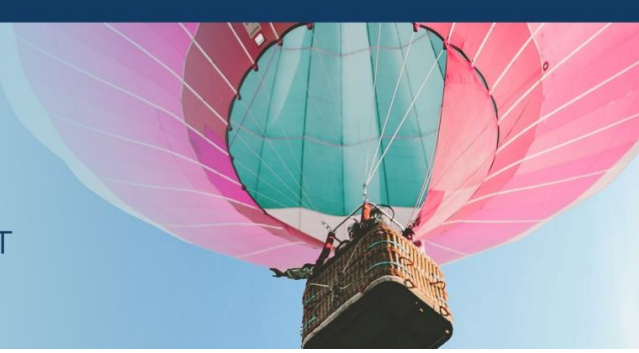
Image sources: Alphinity (image 1), The Australian Marine Conservation Society (image 2,) Pulse Tasmania (image 3), Intrafish (image 4)

1. Advanced technology helps mitigate nature impacts, but concerns remain

The expansion of Tasmanian salmon production, coupled with increased focus on environmental and biodiversity matters, has brought a variety of ecological concerns to the forefront for the industry. Companies are implementing a combination of established and innovative measures to address these challenges, as observed during our site visit with Tassal, Australia's largest salmon producer. Throughout their hatcheries, sea pens, processing facilities, and remote operations centre, we noted the application of advanced, technology-driven strategies aimed at mitigating issues such as low dissolved oxygen, nutrient accumulation and overfeeding.

Tassal is currently the only local producer holding Aquaculture Stewardship Council (ASC) certification, recognised as the most rigorous among salmon certification standards, underscoring its commitment to environmental stewardship and transparency. The company also provides regular annual disclosures, facilitating engagement with investors and stakeholders despite being a privately held firm.

Nevertheless, evaluating the true effectiveness of these management controls remains challenging. Alongside other industry participants, Tassal continues to attract scrutiny and concerns from local communities and non-governmental organisations, due to the ongoing nature related concerns and adverse events such as threats to endangered species, algal blooms, disease, antibiotic use, mass fish mortality events, salmon welfare and wildlife interactions.



2. The extinction risk of the Maugean skate has improved

During our visit, we observed the captive breeding program for the Maugean skate, which represents a significant conservation initiative. The program has successfully bred 120 skates from an initial group of four adults over 18 months, with additional eggs expected to hatch and released into the wild later this year. The Macquarie Harbour Oxygenation Project (MHOP), a collaboration between the Australian Government, IMAS, and Salmon Tasmania, has supported improved oxygen levels in the skate's habitat by injecting dissolved oxygen into deeper harbour waters since early 2024. Preliminary trials indicate that oxygen is being effectively retained at depth, with no negative ecological impacts reported to date.

Despite these advancements, several factors continue to influence the oxygen balance within Macquarie Harbour. These include fluctuating hydroelectric operations on the Gordon and King Rivers, which alter both natural water flows and the inflow of oxygenated ocean water, as well as pollution from treated wastewater and historical mining runoff. While recent oxygenation measures and reductions in biomass have led to improved conditions, the harbour's complex hydrodynamics can still cause variability in oxygen levels. This underscores the ongoing necessity for rigorous monitoring to safeguard the long-term survival of the Maugean skate.

In summary, the progress demonstrated by the captive breeding program for the endangered skate, alongside enhanced oxygenation efforts in Macquarie Harbour, suggests a positive trajectory in reducing extinction risk. These initiatives may also alleviate some environmental and regulatory pressures on local salmon producers; however, continued monitoring and further evaluation will be essential to fully assess long-term outcomes.

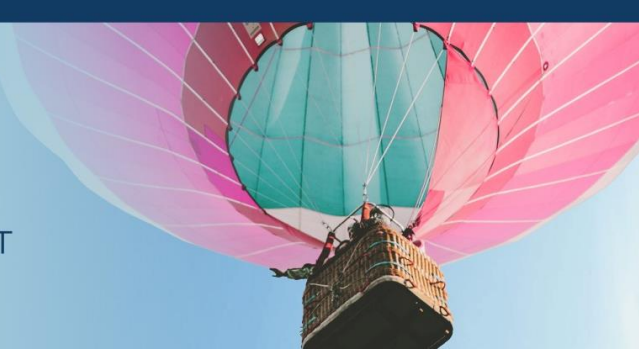
3. Damaged social license and lack of community trust

Whilst Tasmanian salmon producers have adopted advancements in environmental monitoring and technology, a range of stakeholder concerns regarding the industry's social licence were observed during our visit, particularly on the East Coast. Some community members have expressed reduced trust in the industry, citing factors such as ecosystem changes and animal welfare issues.

NGOs, including Neighbour of Fish Farming (NOFF), have raised ongoing concerns related to residential amenity, notably noise and light from operational activities at salmon farms. Organised groups such as the Bob Brown Foundation and NOFF are active in regions like the East Coast, where opposition is more pronounced. According to NOFF, protest participation has increased from around 100–150 people in 2021 to over 4,000 in recent years, indicating heightened public attention. Some local chefs have opted not to serve salmon, and certain grocers in Hobart have stopped selling Macquarie Harbour-sourced products, which may suggest shifts in public support for the industry.

Limited public access to environmental data has contributed to perceptions of reduced transparency between the industry and communities. The transfer of ownership by some larger producers to private foreign entities has also resulted in lower public disclosure requirements, furthering concerns about transparency.

It should be noted that most stakeholder engagement involved NGOs and community members based on the East Coast, which may not capture views from regions such as the West Coast. Since approximately 87% of the



industry's economic activity occurs regionally, salmon farming continues to be an important part of local economies, with recognition from both Liberal and Labor governments for its contributions to food security, employment, and regional stability. This demonstrates the challenge of balancing economic benefits, environmental considerations, and the broader food system.

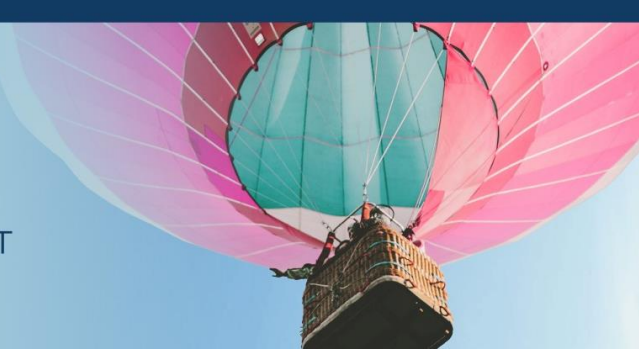
A considerable number of Tasmanians have indicated opposition to the industry, and scrutiny has increased at the national level, partly due to recent media reports on mortality events. Companies such as Tassal acknowledge differing views, but there appears to be no formal strategy from either the company or Salmon Tasmania regarding community engagement or sentiment tracking. Given ongoing political sensitivities, especially in the context of recent state elections, it is likely that the industry will stay high on the social and environmental agenda.

4. Salmon certification schemes differ in compliance standards

Seafood companies commonly adopt certification schemes, and retailers often use them to validate their responsible sourcing claims. During our visit, we learned that these certification schemes vary in their compliance standards and do not provide a complete solution for responsible seafood supply chains.

Discussions with the Aquaculture Stewardship Council (ASC) confirmed that their certification is widely recognised for its robust environmental and social criteria. In contrast, Best Aquaculture Practices (BAP) and GLOBALG.A.P. are generally viewed as having less stringent environmental standards. Key issues with these certifications in the context of Tasmanian salmon include:

- **Absence of explicit dissolved oxygen (DO) limits**: Both BAP and GLOBALG.A.P., which certify farms in Macquarie Harbour, do not have specific DO compliance thresholds. This limits both certification bodies to effectively monitor or manage impacts on species, or larger biomes, when DO declines.
- **Withdrawal of Macquarie Harbour farms from ASC certification due to non-conformances**: Highlighting the difference in rigor, farms in Macquarie Harbour ceased ASC certification after audits found serious environmental breaches. Unlike BAP and GLOBALG.A.P., ASC explicitly requires farms to maintain water parameters, including phosphorus and oxygen levels, within defined limits. The continued certification of these farms under the less stringent schemes raises concerns about their effectiveness in supporting genuinely responsible sourcing claims.
- **Lack of adaptation to regional ecological conditions**: Certification schemes typically apply global standards designed to ensure broad sustainable aquaculture outcomes across diverse regions. While this uniform approach promotes consistency and comparability, it can sometimes overlook the unique ecological characteristics of specific sites.



Stewardship case study | Coles

As shareholders of Coles Group, we have engaged with the company on numerous occasions regarding its responsible sourcing practices. We believe that implementing strong practices will help to protect Coles from additional regulatory burden, customer scrutiny, negative news headlines, and supply chain disruptions.

Shareholder action at the 2024 AGM, where more than 30% of shareholders supported a proposal for Coles to improve its assessment of nature related risks and opportunities, is a strong signal that nature considerations are increasing in materiality and relevance for the investment community.

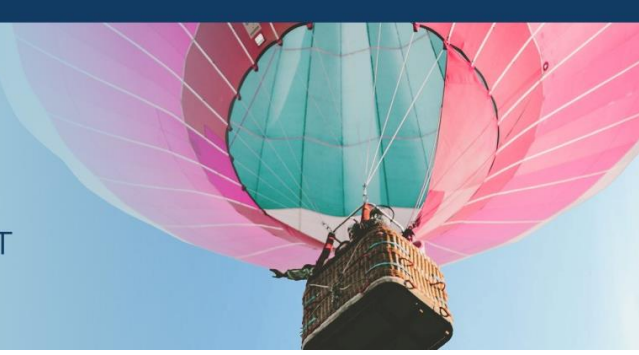
Our recent research trip to Tasmania provided valuable insight into the complexities of this supply chain, highlighting concerns related to the fragmented and challenged social licence of the salmon industry. For supermarkets such as Coles, maintaining a robust social licence throughout the value chain is essential for upholding brand reputation.

While we did not support the shareholder proposal at the 2024 AGM to cease sourcing from Macquarie Harbour, we voted in favour of the proposal aimed at improved transparency concerning the risks within the farmed seafood value chain. We believe that enhanced analysis and disclosure in this area enable supermarkets to better identify and address supply chain risks, manage regulatory obligations, and respond to community and customer concerns.

Following our trip, we held an open feedback session with Coles to discuss our observations and recommendations. We placed particular emphasis on concerns regarding greenwashing, specifically the reliance on inconsistent certification standards within responsible sourcing policies, and encouraged Coles to improve communication about its own due diligence measures and standards. Additionally, we highlighted the growing concern from the media and NGOs regarding animal welfare in salmon aquaculture, given the increasing frequency of mass mortality events and the relative lack of established standards compared to terrestrial farming. While Coles' Animal Welfare Policy includes Own Brand finfish, we observe it currently lacks comprehensive requirements specific to seafood farming or processing, except for a ban on live sales.

In the engagement, we recommended enhancing policy disclosures to clearly outline minimum standards for salmon aquaculture and processing, thereby demonstrating effective management of social licence and nature-related risks associated with its predominant seafood product.

Coles was very open to our feedback and acknowledged the need to manage nature-related risks in Macquarie Harbour. We have developed an engagement objective for Coles to improve disclosures relating to environmental and animal welfare standards across seafood supply chains, and we intend to continue this constructive engagement. This open dialogue has significantly contributed to our ESG integration and stewardship activities, and we look forward to maintaining this collaborative relationship throughout FY26.

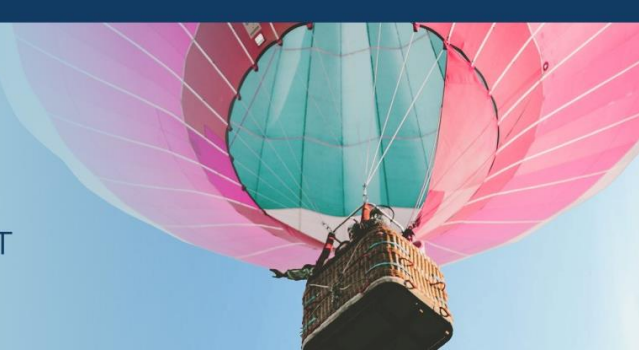


Takeaways

Investment considerations for salmon retailers

As there are no listed salmon producers in the Australian equity market, the following outlines specific investment considerations for ASX-listed salmon retailers such as Coles and Woolworths.

Certification and greenwashing concerns	Certification serves to uphold aquaculture standards and allows retailers to utilise specialised organisational expertise, reducing the need for all responsibilities to be managed internally. However, differences among the three major certification bodies (ASC, GlobalGAP, BAP) have led to questions about the consistency of responsible sourcing labels such as those used by Australian food retailers. Since Coles and Woolworths use these certification schemes to support their 'responsible sourcing' seafood labels, there is a possibility that greenwashing could occur if due diligence is not adequately demonstrated. A complaint regarding potentially false, misleading or deceptive representations relating to salmon products in supermarkets was filed with the ACCC at the end of 2023.
Regulatory risk	While the Tasmanian salmon sector has historically benefited from bipartisan political support, rising environmental and community risks may result in increased regulatory constraints or potential bans. Furthermore, if additional evidence emerges indicating heightened extinction risk for the Maugean skate, further restrictions on salmon farming in Macquarie Harbour could impact supply chains and pricing for retailers. The likelihood of this risk may be influenced by other regions moving towards stricter regulation or restrictions on farmed salmon. For example, in January 2025, Washington State announced a total ban on all open net fin fish aquaculture in state run waters due to cases of negligence causing environmental damage.
Social licence and reputation	The Tasmanian salmon industry faces ongoing challenges related to public trust and social licence. Despite improvements in environmental monitoring and public disclosure, a disconnect remains between operational practices and public perception. Although indirect, this can affect the reputations of food retailers such as Coles and Woolworths. Salmon constitutes only one of many product categories in supermarkets, the direct financial risks associated with changes in consumer behaviour, or from further production limitations in Macquarie Harbour (which supplies much of the summer salmon), are therefore expected to be limited. Consumer demand for salmon also appears to have remained resilient amid industry controversy.
Shareholder activism	Shareholder action related to salmon sourcing have raised reputational and operational risks for Coles and Woolworths. We expect these risks to intensify throughout 2025 with new shareholder proposals to be presented at the upcoming AGMs for both supermarkets.



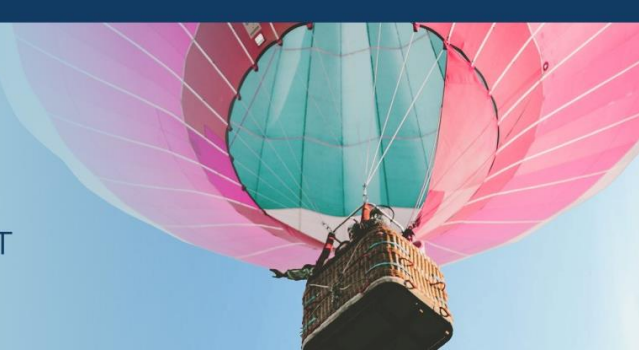
Climate change risk and supply chain disruptions	Climate change poses a significant long-term risk to Tasmanian salmon farming, particularly due to rising sea temperatures and oxygen depletion during summer. This combination of issues has resulted in mass mortality events, reduced supply, higher costs, negative media attention, and reputational impacts. As the industry considers relocating sea pens to colder offshore waters, new risks—including increased maintenance costs and potential environmental impacts such as escaped salmon—may materialise.

Attributes of sustainable salmon farming

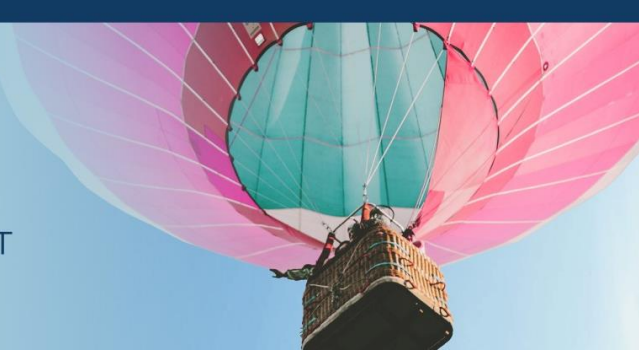
The sustainability of salmon farming is a complex topic involving nature impacts, community considerations, political sensitivities, evolving regulatory risks (including changes to global standards) and social licence risks. Despite the good practices that we identified during the trip, and reasonable disclosures on environmental monitoring, a gap in communication has resulted in community mistrust. So, what strategies should investors adopt to evaluate these different risks and engage effectively with companies?

We have consolidated our insights and present six attributes of sustainable salmon farming in this section. These attributes can be used by investors to guide company engagement and assess the materiality of risks. It should be noted that while this is not an exhaustive list, it serves as a solid foundation and reflects what we believe to be good practices in salmon aquaculture. We believe some of these attributes, such as the effectiveness of certification, are also relevant beyond salmon farming and apply to other aquaculture operations.

Attribute	Description	Questions for salmon retailers
Site selection that minimises ecological and community impact	Sustainable salmon farming should ideally occur in locations that avoid harm to endangered species and minimise disruption to communities. This includes avoiding visually and acoustically intrusive infrastructure near residential areas and limiting operations near ecologically sensitive zones like Macquarie Harbour. Where this can't be avoided, there should be high quality mitigation strategies, accountability and transparency around these decisions, and an escalation pathway where certain events trigger reviews on operational decisions.	• How do your salmon suppliers select sites and consider avoiding harm to endangered species and sensitive ecological areas? • What standards or criteria do you expect from suppliers to minimise community disruptions? • How do you assess mitigation measures and transparency practices are adequate for suppliers operating higher risk sites?
Proactive and measurable community engagement	Building and maintaining social licence requires regular, meaningful engagement with local stakeholders, including NGOs, residents and First Nations groups. Companies should develop metrics to	• What metrics or indicators do you use to assess social license in the salmon industry, and for specific suppliers? • Do you have any expectations for salmon suppliers regarding



	assess and report on social licence, and explore third-party validation (e.g. Reptrak). This is particularly important in Tasmania, where community trust has eroded.	community management and consultation?
Beyond certification: Setting best practice through due diligence and minimum standards	Certification schemes vary in stringency and may not fully address local environmental or ecological risks. Companies should critically assess the certifications they rely on and establish their own minimum standards to maintain responsible practice, particularly around stocking densities and other animal welfare considerations, along with nutrient load and water quality. Alongside this, collaborative industry dialogues, and adherence to international guides on best practice (e.g. Conservation Alliance for Seafood Solutions) can help to drive system-level improvement across the industry.	• What is your view on the effectiveness of certification bodies like BAP, GlobalGAP and ASC? When was the last time a greenwashing review was completed? • How are you engaging with these bodies to lift standards and reduce risks of greenwashing or welfare? • How do you respond when certification bodies like ASC withdraw from Macquarie harbour, or the RSPCA removes its certifications? • What are the barriers to publishing specific certifications on products to support consumer choice?
Robust environmental management and climate adaptation programs	Sustainable operations should include initiatives to reduce nutrient loading (e.g. overfeeding controls), utilise advanced feed systems and manage DO levels through stocking densities and artificial oxygenation. Evidence of adaptation planning for evolving physical climate risks is also crucial. This may include decreasing the time fish spend in sea pens during warmer months and exploring offshore sea pens in cooler waters.	• What is your policy commitment and underlying criteria around environmental standards in Tasmanian salmon? • How do you support suppliers to implement technologies, such as AI-enabled feed systems, to minimise environmental impact and improve monitoring? • How are you considering the impacts of physical climate risks and warming sea temperatures in your seafood supply chain?
Comprehensive and transparent environmental monitoring	Operators should monitor key environmental metrics such as dissolved oxygen, nitrogen and phosphorus levels, as well as mortality rates, antibiotic usage, and feed ingredients and sourcing. Monitoring should be conducted regularly, and during peak biomass seasons to capture the most significant environmental impacts. Disclosures too should be frequent, independently	• What expectations are in place for suppliers to monitor and manage environmental factors such as dissolved oxygen or nitrogen levels? • What kind of data and metrics do you receive from salmon farms in Tasmania at the Hatchery and Pen stage, what is the frequency? • Is there a process to escalate concerns with irregularities in

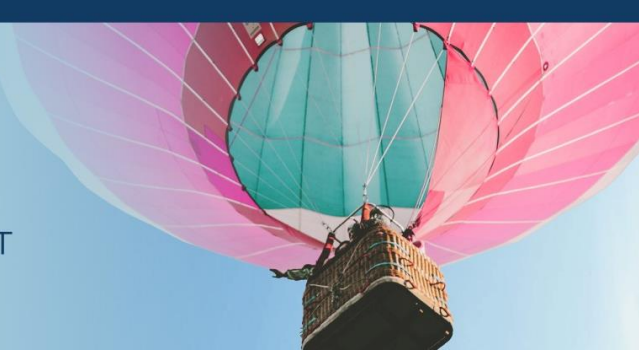


	verified, and made accessible to the public.	environmental data provided by suppliers? • How do you disclose supplier data to your key stakeholders and customers as a supermarket?
Animal welfare	Companies should clearly manage animal welfare (e.g. density, enrichment, humane slaughter) and antimicrobial resistance through vaccines, appropriate stocking levels and biosecurity measures.	• What specific welfare standards do you require from salmon suppliers? • How do you ensure that disease management in farmed salmon prioritises animal welfare while minimising the use of antibiotics and pesticides that could harm marine ecosystems?

Good practice case study | Tassal

Tassal, Australia's largest salmon producer, has demonstrated a strong commitment to environmental stewardship and operational transparency across its Tasmanian aquaculture operations. The following practices reflect the company's proactive approach:

- **Biomass limits:** Tassal adheres to biomass (fish density) limits set by the Tasmanian EPA, which help manage waste discharge and maintain water quality.
- **Real-time monitoring:** Advanced camera systems are deployed across sea pens to continuously monitor fish behaviour and environmental parameters such as temperature, dissolved oxygen, and nitrogen levels. This real-time data enables responsive management and supports fish welfare.
- **Benthic assessments:** Tassal conducts regular benthic surveys using remote-operated vehicles to assess the impact of salmon farming and feed waste on the sea floor. Following harvesting, a mandatory 6-week fallowing period allows for seabed recovery, reducing long-term ecological impact.
- **Seasonal stocking:** To mitigate heat stress during summer, Tassal extends the grow-out period at its onshore hatchery facilities.
- **Wildlife interactions:** Enhanced exclusion infrastructure, including netting and camera monitoring, has significantly reduced the need for wildlife deterrents. Since 2020, Tassal reports a 97% decrease in deterrent usage, and events such as seal break-ins only occur every 2-3 months.
- **Antibiotic transparency:** As of May 2024, Tassal began publicly disclosing antibiotic use across its marine farms. Impressively, the company has achieved a 67% reduction in salmon antibiotic use since 2023.
- **Fish survival:** The survival rate in 2024 for Tassal salmon was reported as 89.2% for salmon in marine pens and 88.3% for freshwater. These figures reflect effective health management and welfare standards across farming environments.



Lessons on nature risk

Beyond the insights gained in the salmon industry and for aquaculture more broadly, the trip reinforced some important considerations when assessing nature-related risks in investments.

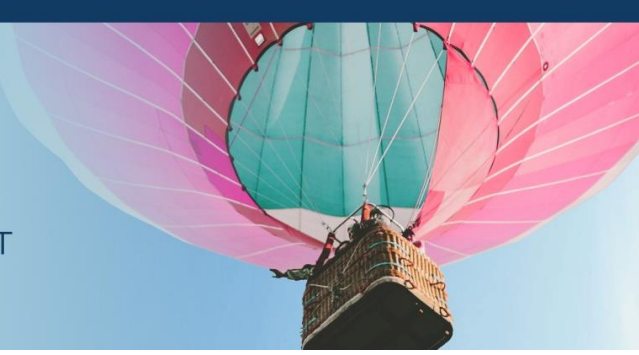
Nature & climate change	Nature & communities
Nature and climate change are interrelated, as natural systems such as forests and oceans provide ecosystem services (including clean air and pollination) and function as carbon sinks. Climate change can also contribute to the degradation of these systems and affect ecosystem stability through incidents like heatwaves. For instance, in Tasmania's salmon industry, rising summer water temperatures have increased fish stress and disease, resulting in large-scale die-offs. This demonstrates how climate change and nature loss can jointly affect industries such as aquaculture. Organisations ignoring the connection between nature and climate face reputational, regulatory, and operational risks. Those that address both issues can better manage environmental risks and align with frameworks like the Taskforce of Nature-related Financial Disclosures (TNFD). Integrating nature and climate strategies is now recognised as part of sustainable business practice.	Nature-related risks are deeply intertwined with social risks. Healthy ecosystems are vital for the wellbeing, identity, and resilience of communities, providing food, water, cultural significance, and economic livelihoods. These factors are especially important for First Nations, where connections to nature are central to identity. The salmon farming industry illustrates what can happen when this interdependence is poorly managed, including loss of public trust. Nature is not just a backdrop but an active part of economic activity—communities depend on, value, and defend it. Balancing environmental stewardship and community engagement is key to maintaining social license, protecting reputation, and ensuring long-term operations. As awareness and regulation grow, companies that ignore these links may face resistance, while those that respect them will build stronger, more resilient relationships with communities and stakeholders.

Nature & governance

As companies become more aware of nature-related risks, industry standards and certifications are helping to improve comparability and transparency, much like with climate transition (Science-Based Targets Initiative) and cybersecurity (ISO27001). These tools set consistent benchmarks and build stakeholder trust. Yet, our recent experience shows that relying solely on certifications has drawbacks, including lack of local context and credibility issues from self-assessment or unqualified audits, which can increase risk.

To address this, companies should supplement certification schemes with strong internal governance, such as custom audit programs, robust due diligence, and thorough reviews. These steps help uphold sustainability commitments.

Effective nature risk management requires clear oversight, strong commitments, and transparency. Companies should identify key nature risks, develop targeted mitigation strategies, and support them with thorough assessments (e.g., TNFD's LEAP framework) and transparent, time-bound disclosures.



Conclusion

The Tasmanian salmon industry presents an evolving set of ESG considerations that have been steadily weaving themselves through the industry's nets, and reveals a complex landscape, mirroring the broader challenges faced by nature-dependent sectors. Despite the commitment to responsible aquaculture, such as efforts to monitor environmental parameters and mitigate impacts accordingly, the effectiveness of these measures is still under question. Ultimately, this calls for transparency and action by both salmon producers and retailers. It also highlights the importance of proactive investor stewardship and engagement to assess and manage operational, reputational and regulatory risks that have the potential to impact financial performance.

We would like to thank Tassal for hosting investors, continuing to uphold public disclosures as a private company, and commend their willingness to engage on a complex topic. We hope that these perspectives are insightful for salmon producers, salmon retailers and the broader investment community.

Improving knowledge is the first step to enable detailed, and therefore more credible, dialogue with companies. With this in mind, we hope that investors consider engaging with companies, using the insights and questions outlined as guidance.