

The Future of Sustainable Salmon Feed: A Call to Action

2022

Accelerating Ambition for Sustainable Salmon Feed

In spring 2022, salmon farm industry players, NGOs, and retailers came together to take part in a ‘Salmon Feed Action Sprint’, to develop a shared future vision for salmon feed to 2040.

The salmon farming industry has been seen by many to take a leadership position on feed innovation and is increasingly looking at feed source sustainability. Salmon feed can account for up to 90% of the environmental impact associated with salmon production[1]. As the salmon farming industry improves its environmental standards, reduces Scope 3 emissions and wider socio-environmental impacts, it is also facing significant feed and energy supply chain disruption, volatility, and uncertainty.

Independently facilitated by international sustainability non-profit Forum for the Future and supported by Tesco and WWF-UK, participants of the Action Sprint explored how leading on salmon feed over the next decade will build resilience, benefit the industry and increase its ability to thrive and contribute to the needs of our planet and society in the future.

Building on existing salmon aquaculture and feed sustainability certification standards, the Action Sprint looked beyond current requirements, bringing increased ambition and future focus for change[2].

[1] Newton & Little (2018) Mapping the impacts of farmed Scottish salmon from a life cycle perspective, *The International Journal of Life Cycle Assessment* **23**, 1018–1029.
Available at: <https://link.springer.com/article/10.1007/s11367-017-1386-8>

[2] The outputs of the Action Sprint and call to action are not binding to any participating party and should be considered as a synthesis of the inputs of participants based on non-

A Shared Future Vision for Salmon Feed

1. High quality salmon that is part of nutritious diets and adds value to the wider food system

2. An industry that has made a step change in impact, such that it is actively welcomed and valued for its contribution to sustainable nutrition

3. Salmon that remains available and accessible, despite disruptions, as an anchor within the food system**

Sustainability Outcomes

Contributes to nutritional security

- Improved salmon nutritional profile for human consumption
- More efficient production
- Net positive fish production
- Equitable access to food and resources for communities

Operates within planetary boundaries

- Net zero GHG emissions (Scope 1, 2 & 3)
- Absolute GHG emissions reductions (Scope 1, 2 & 3) in line with Science Based Targets*
- No further degeneration of forest or water ecosystems
- No increase in pressure on wild fish stocks beyond sustainable levels

Actively contributes to healthy ecosystems and societies across the supply chain

- Net biodiversity gain
- Regeneration of 'blue' habitats
- Supports good animal welfare and developmental health
- Thriving communities & supporting a just transition for any impacted communities
- Safe, healthy & positive work

Has cross-industry capacity for evolution and change

- Cross-value chain, policy & NGO collaboration
- Investment in R&D with more 'open innovation'
- Full traceability across the value chain to origin

* A guide to "[Setting Science-Based Targets in the Seafood Sector: Best Practices to Date](#)" has been published by the UN Global Compact.

**alongside other fed and, importantly, unfed aquaculture products

What Could Future Salmon Feed Look Like?

Whilst we believe the future feed mix will evolve over time, the following characteristics will be key by 2032:

This will be accompanied by a shift in sourcing practices to support:

- Traceability and transparency of impacts
- Living wages & incomes
- Fair recruitment and employment practices
- Elevating the voice of communities across the value chain in decision making
- Inclusion of small businesses and a just transition for producing communities

Much greater diversity of proteins & oils

with other high performing ingredients included, notably by-products from other food and non-food activities

Increase in the absolute volume usage of (responsibly sourced) high quality, non-food grade by-products

including crop, fish and other animal by-products, as appropriate

Inclusion of ingredients that support ecosystem restoration, regenerative agriculture/ aquaculture and decent local livelihoods for producers and processors, e.g. seaweed, legume by-products

Much higher % of emerging ingredients

incorporated (e.g. insects, algae, fermentation products), particularly those that contribute to livelihoods and circular or regenerative food systems with a lower footprint

A significantly higher ratio of fish trimmings use to 'virgin' marine inputs

with the balance of forage fish species reflecting those less used or desired for direct human consumption

Reduction in volume reliance on soy, rapeseed, corn, wheat, fishmeal and fish oil derived ingredients.

All soy and fish meal and fish oil certified to high sustainable harvest / production standards.

Greater diversity in length of supply chains

with some more localised feed supply where it makes sense (e.g. European field bean by-products)

A wider range of feed material origins, potentially including biosecure, responsible sources of animal protein by-products, insects, gene edited or gene modified products, single-cell products, etc.

Four Design Principles for Sustainable Salmon Feed

Recognising the importance of delivering meaningful action over the **next decade**, Action Sprint participants identified **four key design principles** that underpin the potential to deliver sustainability outcomes. Each of these design principles is linked and needs to be used in concert:

1. **Diversity:** broadening the basket of sustainable ingredients in the feed mix. This could reduce over-reliance on a narrow set of ingredients, improve the capacity to remain affordable, avoid supply issues and enabling the incorporation of other high performing, traceable and sustainable ingredients that boost the nutritional value of salmon products and have a positive impact for people and the planet.
2. **Circularity:** contributing to upcycling nutrients as part of a circular food system with a focus on ingredients that are not suitable for direct human consumption. This will result in an increase in the absolute volume usage of (responsibly-sourced) non-food-grade by-products, in order to achieve a lower environmental and land footprint and support multiple income streams for producers.
3. **Socially just:** actively making a positive impact in improving diets, lives and revitalising communities through feed sourcing practices. This principle recognises the sector's responsibility for upholding human rights across the value chain and that a continued social licence to operate for the industry will be contingent on its ability to generate positive societal value.
4. **Environmentally regenerative:** supporting feed production produced using regenerative agriculture and aquaculture practices, by prioritising ingredients that do not further degrade the environment and supports ecosystem restoration and regeneration.

From Vision to Action: A 10 Point Plan for the Salmon Sector

- 1. Review organisational strategy and policies in relation to the four design principles** and key sustainability outcomes, identifying where there may be gaps or opportunities for action
- 2. Support the identification of shared metrics, drawing on and contributing to existing work** with a view to baselining current feed mixes and transparently reporting progress
- 3. Encourage other organisations to show their support for the Call to Action** and contribute to collective action on the next steps
- 4. Establish smart partnerships for investment into emerging feed ingredients** (e.g. insects, algae, fermentation products etc.) with costs shared fairly across the value chain to scale up and improve the quality, affordability, and availability
- 5. Establish a collective effort across sectors to understand how to unlock barriers to by-product use for feed**, including conducting an analysis of potential by-products and supporting a narrative shift from 'waste' to high value 'co-products' (with a key role for retailers to broker
- 6. Further explore an aligned sustainability approach to fishmeal and fish oil**, undertaking market research to understand the current and future potential for human consumption of different sources of forage fish, and engaging in cross-species fora to further promote sustainable fisheries management.
- 7. Develop a definition for 'regenerative aquaculture'**, including how it applies to salmon and feed.
- 8. Support capacity building around social issues and human rights** to build understanding and move away from siloed discussions on environmental and social issues.
- 9. Work collaboratively together with NGOs and consumer associations to develop an accessible public narrative** on salmon feed and support consumer awareness and acceptance of new feed ingredients, as well as a summary for policymakers.
- 10. Embark on a collective endeavour to increase visibility and transparency** across the whole supply chain to include the people involved in the production of ingredients.

Call to Action

The Salmon Feed Action Sprint invites other **retailers, supply chain actors, NGOs and initiatives to support this Call to Action** as a clear market signal for future investment and action, not just in the salmon industry but for animal feed developments in aquaculture and other livestock sectors.

The outputs of the Action Sprint and call to action are not binding to any participating party and should be considered as a synthesis of the inputs of participants based on non-commercially sensitive information, rather than a reflection of any individual organisation's strategy or plans.

The following organisations participated in the Salmon Feed Action Sprint that supported the development of this Call to Action:

Agronutris

Farne
of Scotland

HILTON
FOODS



Grieg
Seafood®



Rabobank

ROOTED IN NATURE

Aquascot

Cargill®

Helping the world thrive

Earthworm

TESCO

IKEA

LERØY

FAIRR
A COLLER INITIATIVE

COAST

MOWI®

North East

For more information about next steps contact: LHendrikz@wwf.org

Also supported by:

MARINE
CONSERVATION
SOCIETY



WAITROSE
& PARTNERS



GROUPE
Casino

Système

