

Animal Welfare Risk Matrices for Key Seafood Certification Programs

The Model Seafood Welfare Standard

The Model Seafood Welfare Standard (MSWS) was created through 18 months of consultation and technical work among leading NGOs, including Lever Foundation, The Humane League, RSPCA, Eurogroup for Animals, Albert Schweitzer Foundation, Fish Welfare Initiative, Shrimp Welfare Project, Crustacean Compassion, World Animal Protection, Ethical Seafood Research, and others. Together, these groups developed a practical framework to help companies integrate animal welfare criteria into seafood sourcing, an area long overshadowed by environmental priorities.

For farmed seafood, the Model Seafood Welfare Standard focuses on the key areas where the universally recognized Five Freedoms are most egregiously violated, and where the most substantial animal suffering occurs:

- Water quality
- Disease
- Mortality
- Environmental conditions (stocking density, etc)
- Slaughter

Animal Welfare Risk Matrix for Key Certification Programs

The development of the Model Seafood Welfare Standard included a joint review of all major seafood certification schemes to understand which already included specific criteria on these key animal welfare issues and which did not. Upon review, it was clear that the certification standards of ASC, RSPCA and Naturland provided animal welfare protections in substantially all of the above key areas, whereas the certification standards of BAP, GlobalGAP, and several others provided virtually no animal welfare protections in any of these key areas.

The chart on the following page provides a breakdown of how these certification programs compare on each key area of animal welfare.

Risk Exposure from Certification Schemes Lacking Animal Welfare Criteria

Companies that rely on certification schemes that focus solely on environmental criteria but lack animal welfare safeguards face heightened risk from stakeholder scrutiny, investor expectations, and brand reputation pressures. As public and regulatory attention to aquatic animal welfare increases, gaps in welfare oversight within the supply chain can become a material reputational and operational liability. This risk can be readily mitigated by prioritising sourcing from certification programs that include robust welfare provisions, or by establishing clear technical requirements that assess how suppliers manage the key welfare issues identified by the Model Seafood Welfare Standard.

Animal Welfare Protections in Key Seafood Certification Programs

Topic	ASC	RSPCA	Naturland	BAP	Global GAP
Water quality monitoring	Strong: Requires twice-daily monitoring of oxygen and temperature, daily monitoring of pH, and daily monitoring of ammonia, nitrite, and nitrate for RAS systems.	Strong: Mandates regular measurement and management of parameters such as oxygen levels, temperature, pH, ammonia, carbon dioxide, and stocking density impacts, with corrective action required when thresholds are breached.	Strong: Requires regular water-quality monitoring (oxygen, temperature, pH, ammonia and other relevant parameters) and mandates corrective action when values fall outside species-appropriate limits.	Moderate/Weak: Requires only once-daily monitoring of oxygen, temperature and salinity.	Weak: Does not set any specific daily (or even weekly) requirements for water quality monitoring.
Disease tracking and management	Strong: Sets specific limits for disease and parasites; mandates specific actions when thresholds are exceeded; revokes certification if not corrected.	Strong: Requires continuous disease monitoring through daily health checks, recorded mortality and illness, strict biosecurity, and prompt diagnosis and treatment under a veterinary health plan, with mandatory corrective action when abnormal disease patterns appear.	Strong: Requires routine health monitoring, recording of mortality and disease cases, rapid veterinary diagnosis, preventive health plans, and immediate management actions when illness occurs.	Weak: Requires farms to have a written health-management plan and to keep basic records of disease and treatments, but it does not set numeric limits for disease or parasite levels, does not mandate specific corrective actions when mortality or disease increases, and largely relies on the farm's self-designed plan rather than enforceable thresholds.	Weak: No specific limits for disease and parasites; mandates recording and investigating disease signs but does not mandate specific corrective actions, only requires farms to follow their own self-designed health plan.
Mortality tracking and mortality limits	Strong: Requires daily monitoring of mortality and sets hard limits on mortality that, if exceeded, must be reported and corrected.	Strong: Requires daily mortality tracking, investigation of unexplained deaths, and mandatory corrective action when mortality rises above expected levels.	Strong: Requires systematic mortality tracking and investigation of elevated or unexplained deaths. However, the standard does not set fixed numerical mortality limits; instead, farms must act immediately when mortality exceeds expected levels or indicates welfare or environmental problems.	None: Requires daily mortality monitoring but does not have any mortality thresholds or require any corrective action when mortality rises above defined parameters	None: No requirement to track mortality daily; no mortality limits

Environmental Conditions	Moderate: Sets explicit maximum stocking densities by species and production system. Lighting, noise, and handling environments must be managed to reduce stress.	Strong: Includes specific stocking density limits, and farms must justify and manage densities to ensure fish can swim, school, and maintain good health.	Strong: Requires farms to maintain environmental conditions that support species-appropriate behaviour and welfare, including limits on stocking density, provision of appropriate substrates or structures when relevant to the species, protection from extreme temperatures and poor water parameters, and maintaining systems that ensure adequate water flow, oxygenation and overall habitat quality	Weak: Provides no specific density guidance, has no requirement to monitor welfare relative to density, and has no welfare-based density adjustment mechanism	Weak: Provides no specific stocking-density limits, no enrichment requirements, and no welfare-based mechanisms to adjust conditions when problems emerge. The standard focuses on broad environmental management rather than prescriptive welfare criteria.
Slaughter	Moderate: Requires humane slaughter (electrical or mechanical stunning) for fish, though not crustaceans.	Strong: Requires pre-slaughter stunning, and the only permitted systems are electronarcosis (electrical stunning) and percussive stunning. Carbon dioxide stunning is explicitly prohibited. Operators must verify unconsciousness, prevent recovery before killing, and ensure the process results in rapid loss of sensibility.	Strong: Requires slaughter to use humane stunning methods that render fish immediately insensible before killing, prohibits stressful or painful killing techniques, and mandates handling and equipment that prevent avoidable suffering during the slaughter process	Moderate: Requires humane slaughter (electrical or mechanical stunning) for finfish, though not crustaceans.	Weak: Does not mandate pre-slaughter stunning or specify approved stunning methods, resulting in a relatively weak level of welfare protection at slaughter.
Feed management	Strong: Requires farms to follow a documented feed-management plan that monitors appetite and growth, uses efficient feeding methods to minimise waste, controls feed withdrawal periods, and sources feed ingredients responsibly according to ASC's traceability and sustainability rules. Sets specific limits on the use of wild-caught fish in aquafeed supply chains	Moderate: Requires limits on fasting periods and prohibit unnecessary feed deprivation. They do not set detailed rules on rationing, feeding methods, or nutritional composition	Strong: Requires that feed be organic, species-appropriate and sustainably sourced, with farms managing feeding to avoid underfeeding, overfeeding and feed waste, and limiting fasting periods to only what is necessary for handling or transport.	Weak: No requirements for welfare-related feeding practices. It provides basic rules on feed inputs (for example, approved ingredients, traceability, and limits on certain additives) but does not set detailed requirements for feeding methods, rationing, behaviour-based monitoring, or welfare-linked feed management.	Weak: Provides no detailed welfare-based feeding requirements, no rules on feeding frequency or monitoring of appetite and behaviour, and no limits on fasting beyond general health considerations.

Appendix: Links to Referenced Standards

Aquaculture Stewardship Council (ASC)

Standards overview: <https://www.asc-aqua.org/what-we-do/our-standards/>

Full standard: <https://www.asc-aqua.org/what-we-do/our-standards/farm-standards/>

RSPCA Assured

Salmon and trout welfare standards: <https://www.rspcaassured.org.uk/standards/salmon-trout/>

Science and detailed welfare criteria: <https://science.rspca.org.uk/sciencegroup/farmanimals/standards>

Naturland

Standard overview: <https://www.naturland.de/en/naturland/what-we-stand-for/quality/naturland-quality-standards>

Standard download page: <https://www.naturland.de/en/standards>

Best Aquaculture Practices (BAP)

BAP standard overview: <https://www.bapcertification.org/Standards>

BAP Farm Standard: <https://www.bapcertification.org/Best-Aquaculture-Practices-Standards>

GLOBALG.A.P.

Aquaculture standard overview: https://www.globalgap.org/uk_en/for-producers/aquaculture/

Standard document archive: https://www.globalgap.org/uk_en/documents/