

ASC GLOBAL REVIEW: U.K. (SCOTLAND) SUMMARY

Scottish farms contribute less than one per cent of all ASC certified product. Only approximately two per cent (or 4,359mT)¹ of the industry is certified.



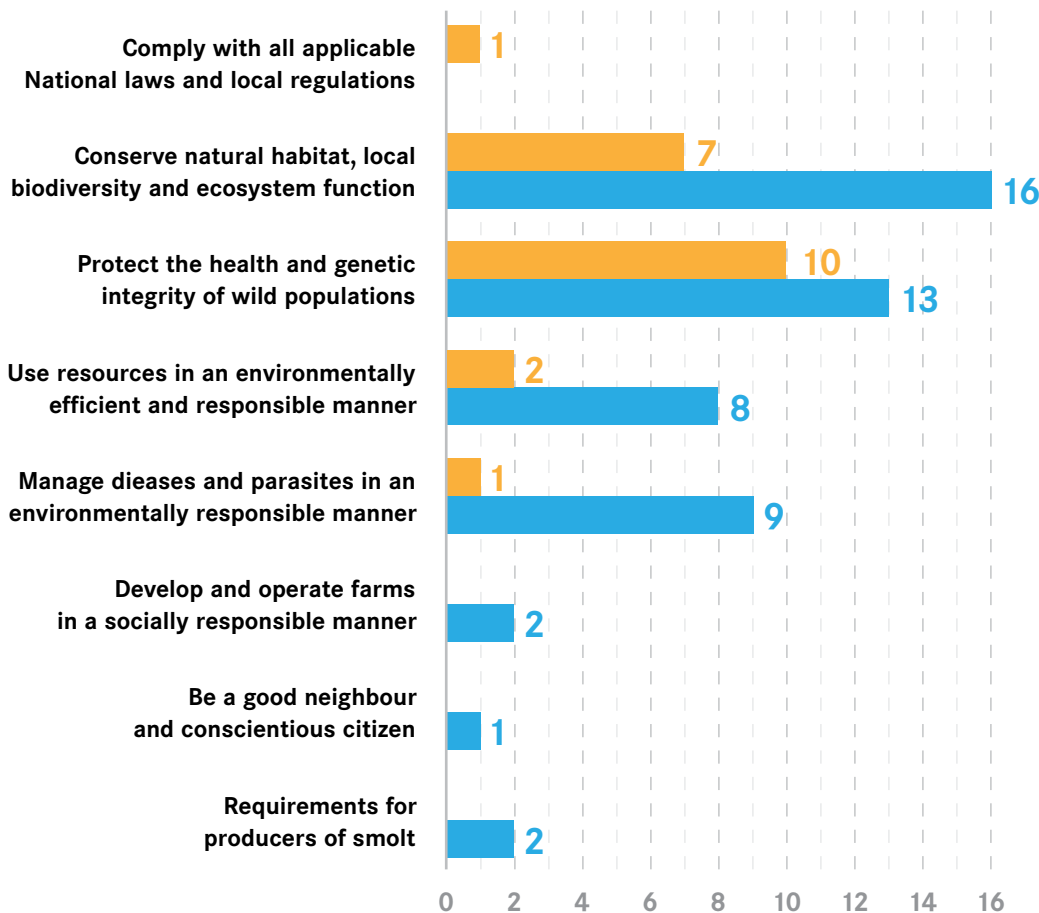
ANALYSIS

FARM CONFORMANCE

Assessing trends for Scottish farms is challenging given that only one farm was certified as of April 1, 2018. In addition, one farm's certificate has expired, another has withdrawn and a few are listed as cancelled. Six audits were reviewed (3 initial; 3 surveillance), which included a total of 21 major and 51 minor non-conformities.

U.K. (SCOTLAND): MAJOR AND MINOR NON-CONFORMITIES BY PRINCIPLE

● MAJOR ● MINOR



COMMONLY RAISED NON-CONFORMITIES:

- Benthic sampling and monitoring not completed due to early auditing
- Sea lice indicators such as sea lice monitoring, on-farm levels and the lack of a maximum ABM sea lice load

FARM PERFORMANCE

No farms had an area-based management agreement that fully complied with all Standard requirements. Farms remained certified despite elevated sea lice levels. Antibiotics and parasiticide use is common, however, the average farm can meet both Standard limits. Scottish farms successfully met the Standard's fish feed dependency ratios.

AREA-BASED MANAGEMENT (ABM)

Scottish audits refer to ABM schemes, known as Farm Management Agreements (FMAs) which meet some, but not all, Salmon Standard Appendix II requirements. Scottish farms must be part of a Farm Management Area (FMA) or a Farm Management Statement in the case of individual farms.² FMAs are now legally enforceable under the Aquaculture and Fisheries (Scotland) Act 2013.³ FMAs encompass such things as fish health management, sea lice control strategy, resistance testing, as well as synchronized fallowing and treatment plans. There is also an emphasis on data collection and exchange. Sites within a FMA should use single year-class fish and a minimum fallow period of four weeks at the end of each cycle, although exceptions are allowed. Unfortunately, FMAs are not required to address the cumulative components of Appendix I-1: cumulative use of treatments (e.g. antibiotics classified as "highly important" by WHO) and tracking of cumulative use of parasiticides. No setting of a maximum FMA lice load is mentioned. Elevated sea lice abundance and high use of parasiticides in Scotland's salmon farms remain a serious concern.⁴

SEA LICE MONITORING ON WILD SALMON

An approved variance exists that, in practice, exempt Scottish from sea lice monitoring on wild salmonids as the handling of wild salmon is prohibited due to their endangered status.⁵ As a result, there is no evidence for what is arguably one of the most critical indicators of ecosystem health.

SEA LICE LEVELS

Two (out of three) farms breach the ASC requirement during the sensitive period (March to May). Values ranged 0.2 to 2.1 mature female lice per fish.

MAXIMUM VIRAL DISEASE

No Scottish farm reported a metric above the Standard threshold.

ESCAPES

No Scottish farm reported a metric above the Standard threshold.

ANTIBIOTIC USE

4 (out of 6) audits reported antibiotic use in the grow-out stage with a total of 6 treatments.

SEA LICE CHEMICAL TREATMENTS (I.E. PTI SCORE)

3 (out of 6) audits recorded parasiticide use. The average Scottish farm has a PTI score of 3.8 which equates to around 1 treatment per cycle.

FISHMEAL FORAGE FISH DEPENDENCY RATIO (FFDRM)

The average Scottish farm had a 0.43 FFDRm.

FISH OIL FORAGE FISH DEPENDENCY RATIO (FFDRO)

The average Scottish farm had a 2.06 FFDRO.

MARINE MAMMAL DEATHS

No audits recorded lethal incidents above the limit.

Transparency: Farm Public Reporting

Public reporting of on-farm sea lice counts, marine mammal and bird entanglements and estimated unexplained loss by certified farms was found to be relatively effective.

ASC AMENDMENTS OF CONCERN

INTERPRETATIONS

Intermediary stages omitted from compliance

Intermediary stages of the production cycle, such as early grow-out sites, are never assessed against the ASC Standard. **Up to a year is omitted from compliance with the Standard.** Recently the ASC deemed intermediary stages to be “out of scope”.⁶ This ASC interpretation amends the CAR’s ‘unit of certification’ definition and contravenes numerous Salmon Standard indicators that rely on data or evidence derived from a full production cycle to demonstrate compliance. Metric counts and data reporting may be false or underreported given that treatments (e.g. antibiotics and sea lice parasiticides) and environmental values from the intermediary stage are not included.

OPERATIONAL REVIEW

Parasiticide Treatment Index (PTI) Review

The ASC’s proposed revision to the sea lice parasiticide treatment indicator would allow Scottish farms up to 9 treatments per cycle.⁷ The current treatment frequency allowance is 2-3 treatments, thereby, **the amount of parasiticide use allowed under the Standard would increase by 200% - 350%.**⁸ It would take a Scottish farm up to 12 years to reach the proposed ‘global target’ metric – defined at four treatments.

In addition, the revision proposes removing lobster impacts from the criterion despite scientific studies demonstrating negative impacts and potential risk to lobsters from parasiticides^{9 10 11} – including a study from Scotland regarding impacts on crustacea from the sea lice parasiticide emamectin benzoate.¹²

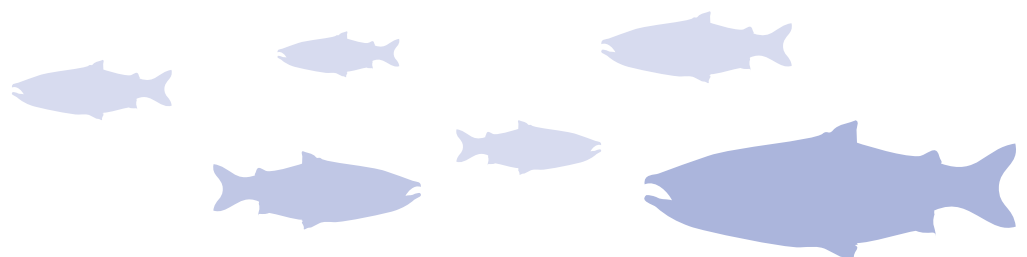
VARIANCES

18 variances have been approved, with three variances deferring to government regulation instead of the Standard criteria. Reuse of approved variances are uncommon; 13 citations of variances were found in audits. The average Scottish audit cites 1.85 variances (global mean 2.4).

Common and Problematic Variances

One exempts Scottish hatcheries that discharge directly into the marine environment from the Standard requirement.¹³ The ASC approved the variance, reasoning that the provisions of the Standard with regard to discharge to the marine environment are somehow less than binding.

A variance that exempt Scottish farms from sea lice monitoring of wild fish was approved based on the fact that national regulations prohibit the handling of wild Atlantic salmon.¹⁴ As a result, **there is no evidence for what is arguably one of the most critical indicators of ecosystem health.** It would be of greater benefit for auditors to confirm whether some alternative sea lice monitoring on juvenile wild salmon is taking place (e.g. by government authorities or academia) and is conducted with the necessary rigour and made publicly available.



- 1 ASC (2018). Direct communication.
- 2 Kenyon, W & Davis, D (2018). Salmon Farming in Scotland. SPiCe Briefing. The Scottish Parliament. Available at: <https://sp-bpr-en-prod-cdnep.azureedge.net/published/2018/2/13/Salmon-Farming-in-Scotland/SB%2018-12%20rev.pdf> [Accessed May 2018].
- 3 Crown (2013). Aquaculture and Fisheries (Scotland) Act 2013. <http://www.legislation.gov.uk/asp/2013/7/enacted> [Accessed May 2018].
- 4 Salmon and Trout Conservation Scotland (2018). A critique of the Scottish Government's new sea lice management policy for Scottish salmon farming. January 2018. Available at: <https://www.salmon-trout.org/wp-content/uploads/2018/01/NASCO-Report-FINAL-1.pdf> [Accessed June 2018]
- 5 ASC (2018). VR 138: Sea lice and wild salmon. <http://variance-requests.asc-aqua.org/questions/vr-138-sea-lice-and-wild-salmon/> [Accessed April 2018].
- 6 ASC (2018). Q&A11_Smolts, temporarily held in saltwater, scope of the requirements of the ASC Salmon Standard. <http://variance-requests.asc-aqua.org/questions/are-smolts-that-are-temporarily-held-in-saltwater-pens-but-are-not-yet-in-final-stage-grow-out-sites-within-scope-of-the-requirements-of-the-asc-salmon-standard-v1-0-1-1-if-so-which-principi/> [Accessed April 2018].
- 7 ASC (2017). ASC Salmon PTI Standard Operational Review – Consultation Paper September 2017. Public Consultation. Proposals to replace ASC Salmon PTI indicators 5.2.5 and 5.2.6. Available at: <https://www.asc-aqua.org/wp-content/uploads/2017/07/Salmon-2-PTI-Operational-Review-Consultation-Paper-19-Sept-17.pdf> [Accessed May 2018].
- 8 SeaChoice (2017). Re: ASC Salmon Standard Operational Review – 2nd PTI consultation. Available at: <https://www.asc-aqua.org/wp-content/uploads/2017/11/ASC-PTI-2nd-consultation-SeaChoice-stakeholder-submission.pdf>
- 9 Burrige, L.E., and Van Geest, J.L (2014). A review of potential environmental risks associated with the use of pesticides to treat Atlantic salmon against infestations of sea lice in Canada. DFO Canadian Science Advisory Secretariat Resource Document 2013/050(IV): 25 pp.
- 10 Page, F.H., and Burrige, L (2014). Estimates of the effects of sea lice chemical therapeutants on non-target organisms associated with releases of therapeutants from tarped net-pens and well-boat bath treatments: a discussion paper. DFO Can. Sci. Advis. Sec. Res. Doc. 2014/103. v+ 36 p.
- 11 Couillard, C.M., and Burrige, L.E.(2015). Sublethal exposure to azamethiphos causes neurotoxicity, altered energy allocation and high mortality during simulated live transport in American lobster. *Ecotoxicology and Environmental Safety*, vol. 115, pp. 291-299
- 12 SARF098: Towards Understanding of the Environmental Impact of a Sea Lice Medicine –the PAMP Suite, (2016). A study commissioned by the Scottish Aquaculture Research Forum (SARF). Available at: <http://www.sarf.org.uk> [Accessed April 2018].
- 13 ASC (2018). VR 39: Maximum total amount of phosphorus. <http://variance-requests.asc-aqua.org/questions/vr-39-maximum-total-amount-of-phosphorus/> [Accessed April 2018].
- 14 ASC (2018). VR 138: Sea lice and wild salmon. <http://variance-requests.asc-aqua.org/questions/vr-138-sea-lice-and-wild-salmon/> [Accessed April 2018].



**This regional report is supported by technical and summary reports.
For the complete analysis and ASC's response, refer to the technical report.**

Visit: www.seachoice.org/asc-global-review

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