ASC GLOBAL REVIEW: NORWAY SUMMARY

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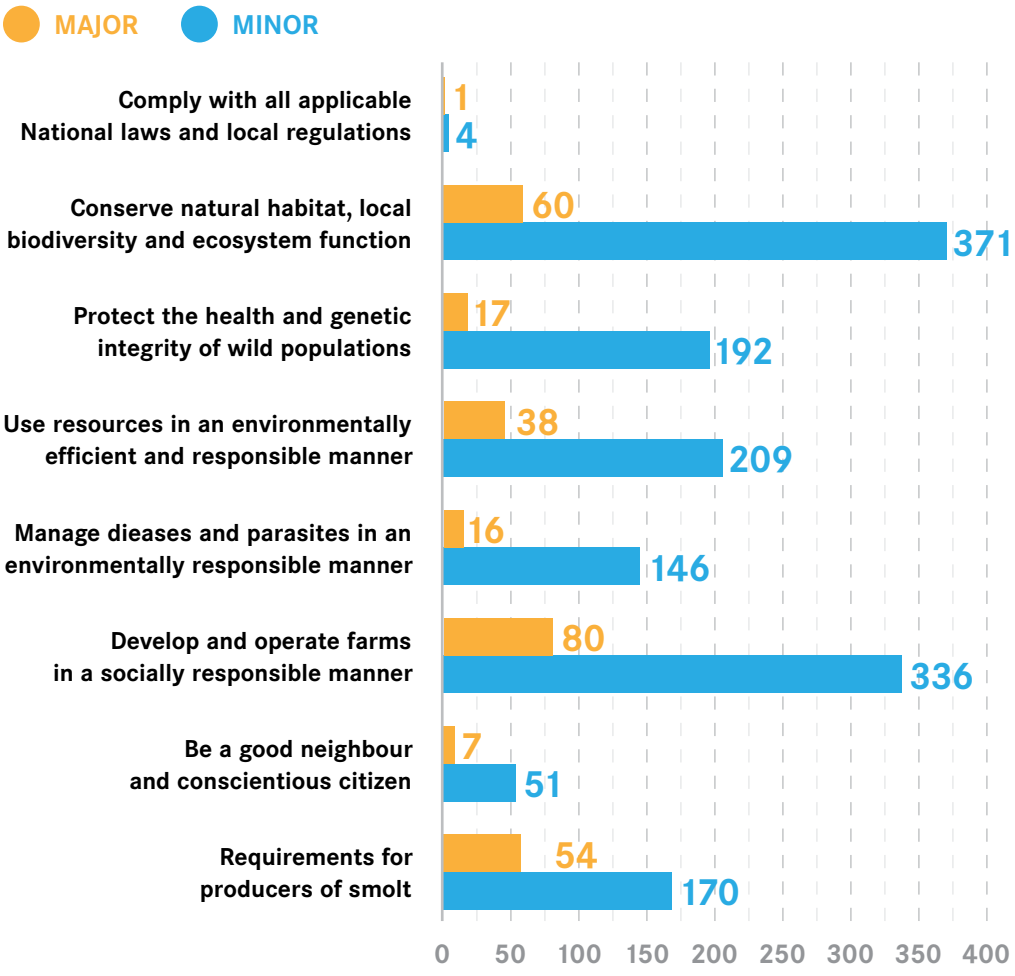
Approximately half of all ASC certified salmon originates from Norwegian farms (359,083 mT),[1] representing about 27 per cent of the Norwegian industry.

ANALYSIS

FARM CONFORMANCE

A total of 121 Norwegian salmon farms were reviewed. Two-hundred and seventy-four ASC audits were analysed (121 initial; 138 surveillance; 15 re-certification), with a total of 273 major and 1,479 minor non-conformities. Norwegian audits had an average of 1 major and 5.3 minor non-conformities.

NORWAY: MAJOR AND MINOR NON-CONFORMITIES BY PRINCIPLE



COMMONLY RAISED NON-CONFORMITIES:

- Benthic sampling and monitoring not completed due to early auditing
- Sea lice indicators such as sea lice levels and the lack of a maximum ABM sea lice load
- Inadequate regular community consultations
- Various socially responsible indicators in relation to working conditions
- Smolt producer requirements such as the maximum phosphorus released and allowance of banned therapeutic treatments

FARM PERFORMANCE

No farms had an area-based management agreement that fully complied with all Standard requirements. Farms remained certified despite breaching one of the following criteria limits: elevated sea lice levels, high maximum viral disease, excessive parasiticide use or large escape event. Antibiotics use was rare. Parasiticide use was common, however the average farm met the current PTI threshold. Norwegian farms successfully met the Standard's fish feed dependency ratios.

AREA-BASED MANAGEMENT (ABM)	Norwegian audits report that signed ABM agreements are in place. While these agreements are termed voluntary, it is stated that all farms in defined zones are signatories and participate in agreements. However, cumulative effects (as defined by Appendix I-1) are largely missing from ABM agreements. In October 2017, the Norwegian Department of Fisheries and Aquaculture defined 13 production zones.[2] The aim of the new zonal system is to address cumulative impacts such as those caused by sea lice, based on an area's carrying capacity and environmental conditions. The Norwegian Food Safety Authority oversees sea lice plans, including coordination of treatments, biomass allowances and enforcement. It remains to be seen whether the zonal system, in concert with farms' ABM agreements, will lead to effective management of sea lice. Sea lice are currently considered the greatest threat to the Norwegian salmon farming industry.[3] Sea lice resistance to parasiticide treatments is another significant concern.[4] Already there has been critique of the new zonal management system's lack of consideration to other impacts on the ecosystem, including those affecting wild salmon.[5] It is also unclear whether the zonal system will address cumulative impacts of antibiotics and parasiticide use.
SEA LICE MONITORING ON WILD SALMON	An approved variance exists that, in practice, exempt Norwegian farms from sea lice monitoring on wild salmonoids as the handling of wild salmon is prohibited due to their endangered status.[6] As a result, there is no evidence for what is arguably one of the most critical indicators of ecosystem health. When the variance is not used, CABs for Norwegian farms use government sea lice monitoring and research from the Norwegian Institute of Marine Research for compliance. Such research may indeed be meeting the intent of the indicator. However, it is recommended that auditors confirm that the evidenced research was conducted with the necessary rigour and made publicly available.
SEA LICE LEVELS	Fifty-five (out of 121) farms breached the ASC requirement during the sensitive period (mid-April to May was reviewed; although some areas have slightly different sensitive periods). Values ranged from 0.11 to 0.67 mature female lice per fish.
MAXIMUM VIRAL DISEASE	Four Norwegian farms experienced elevated viral disease mortality due to CMS and Heart Skeletal Muscle Inflammation (HSMI).[7] Six Norwegian farms recorded breaches in the metric value without specifying the cause. One Norwegian farm experienced an Infectious Salmon Anemia (ISA) outbreak.[8] Farms remained certified.
ESCAPES	Public reporting for the Norwegian farm, Valoyan, lists 1,415 escaped fish in July 2016.[9] Contrary to this, the farm's audit states no escapes have occurred.[10] The farm remains certified.
ANTIBIOTIC USE	Norwegian farms rarely report antibiotic use. Only 8 audits reported antibiotic use in the grow-out stage with a total of 10 treatments.
SEA LICE CHEMICAL TREATMENTS (I.E. PTI SCORE)	194 (out of 270) audits recorded parasiticide use. The average Norwegian farm has a PTI score of 5.2 which equates to less than 2 treatments per cycle. 12 farms recorded PTI scores above the allowed threshold. The worst farm reported a score of 132 (the threshold is 13).[11] The farms remained certified.
FISHMEAL FORAGE FISH DEPENDENCY RATIO (FFDRM)	The average Norwegian farm had a 0.6 FFDRm.
FISH OIL FORAGE FISH DEPENDENCY RATIO (FFDRO)	The average Norwegian farm had a 1.65 FFDRo.
MARINE MAMMAL DEATHS	No audits recorded lethal incidents above the limit.

Transparency: Farm Public Reporting

Norwegian websites were generally found to report on all necessary requirements, with many referring to the government-run website, Barents Watch,[12] for sea lice counts.

ASC AMENDMENTS OF CONCERN

INTERPRETATIONS

Intermediary stages omitted from compliance

Transferring fish between sites has also been observed in Norwegian audit reports. 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".[13] 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 Norwegian farms up to 6 treatments per cycle.[14] The current treatment frequency allowance is 2-3 treatments, thereby, **the amount of parasiticide use allowed under the Standard would increase by 100% - 200%**. It would take a Norwegian farm up to 9 years to reach the proposed 'global target' metric – defined at four treatments.[15]

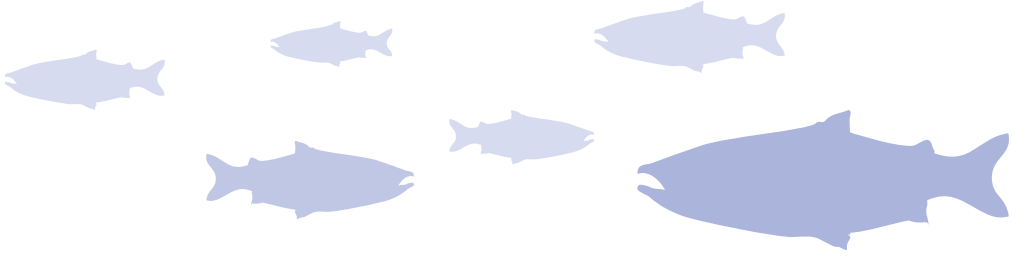
VARIANCES

35 variances have been approved, with two variances deferring to government regulation instead of the Standard criteria. Reuse of approved variances is very common; 567 citations of variances were found in audits. The average Norwegian audit cites 2 variances (global mean 2.4).

Common and Problematic Variances

The most commonly used variance exempts Norwegian hatcheries that discharge directly into the marine environment from the Standard requirement. 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.[16]

A number of variances have been approved in regard to Standard indicator 5.2.5, the maximum Parasiticide Treatment Index (PTI) score. PTI variances have been used 149 times in audits. These variances relate to farms that exceeded the PTI score and were approved by the ASC based on corrective and/or preventive actions. A variance granted to a Scottish farm is the most commonly cited and used in Norwegian audits; it allows farms to calculate the PTI score differently. The variance states that parasiticide treatments targeting individual pens within the larger farm should be counted as a percentage of a full treatment. For example, if 9 out of ten pens are treated, this represents 90 per cent of a single site treatment. This fraction is then incorporated into the PTI calculation. The approach aims to reflect a more "prudent and targeted use of therapeutant[s]".[17] The high use of this variance strongly suggests such an approach should be assessed via the ASC's PTI operational review currently in progress. In addition, a number of variances have been approved for Norwegian farms that have exceeded the PTI score threshold (up to four times the required level). As the ASC allows for approved variances to be reused, these variances have the potential to be applied to other farms that breach the PTI requirement – thereby the intent to limit the amount of parasiticides released into the marine environment is defeated.



Variances that exempt Norwegian farms from sea lice monitoring of wild fish was approved based on the fact that Norwegian regulations prohibit the handling of wild Atlantic salmon.[18] 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.

The ASC approved variances that allows farms to depart from the Standard and on the basis that Pancreas Disease is now considered endemic in large parts of Norway and farms follow local authority procedures.[19] ASC's rationale for the exemption of endemic OIE-notifiable diseases from Standard requirements is unclear. Regardless, this variance demonstrates a weakening of the intent of the requirement to hold ASC farms to a higher Standard than that imposed by local regulators.

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1 ASC (2018). Direct communication.

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8 Mjaaland, S, Rimstad, E, Falk, K & Dannevig, B.H (1997), Genomic characterization of the virus causing infectious salmon anemia in Atlantic salmon (Salmo salar L.): an orthomyxo-like virus in a teleost, Journal of Virology, vol. 71, pp. 7681-7686.

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10 SAI Global (2016). Aquaculture Stewardship Council Salmon Audit Report. 2nd Annual Surveillance Report. Marine Harvest Norway. Valoyan. Available at: http://asc.force.com/Certificates/servlet/servlet.FileDownload?retURL=%2FCertificates%2Fapex%2FASCCertDetails2%3Fid%3Da0124000008RwkJAAS&file=00P2400000GJLGIEA5 [Accessed June 2018].

11 SAI Global (2016). Aquaculture Stewardship Council Salmon Standard Surveillance No. 1 Assessment Report. Non-confidential issue. Marine Harvest Norway Valøyan Farm Site. Available at: http://asc.force.com/Certificates/servlet/servlet.FileDownload?retURL=%2FCertificates%2Fapex%2FASCCertDetails2%3Fid%3Da0124000008RwkJAAS&file=00P24000005R4UoEAK [Accessed April 2018].

12 BarentsWatch (2018). Norwegian fish health. https://www.barentswatch.no/en/fishhealth/ [Accessed April 2018].

13 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-principl/ [Accessed April 2018].

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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

info@seachoice.org
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