



2.5 Benthic impacts

Also includes:

2.11 Material use, waste and pollution control

Stakeholder Consultation April 2024



**Setting The
Standard for
Seafood**



The issue and ASC's approach

The issue

- Most aquaculture systems discharge effluents containing organic materials.
- When materials are disposed of at too high a rate, this 'enrichment' can negatively impact the receiving benthic community, the organisms that live on, in or near the bottom of the water body.
- If the rate of disposition is well managed, benthic impacts can be minimised.

Our approach

- The ASC Farm Standard ensures maintenance of the benthic ecosystem through meeting a specified Ecological Quality Status
- There are escalating requirements based on increased risk to the benthic ecosystem
- Producers must sample and monitor sediment at the farm and at reference locations



What farms need to do



Sample and monitor sediment on the farm and at reference locations following the benthic monitoring programme or approved alternative methods



Achieve an acceptable benthic status - 'moderate' or above - according to the Ecological Quality Status (EQS) in the area surrounding the farm



Sampling must increase with deteriorating conditions and be taken at times of peak impact. Different requirements for different systems



Personnel either independent from the producer or approved by regulators must conduct the monitoring and sampling analysis



Annually report to ASC the Ecological Quality Status and results of downstream sampling



Land based producers must conduct downstream sampling to demonstrate benthic status is similar to, or better than, sampling upstream from the discharge

In depth: requirements for cages and suspended marine molluscs

Increasing monitoring for deteriorating conditions

Better conditions: less sampling

Deteriorating conditions: more sampling and complex analysis

Tier one

- Chemical sampling at one transect
- If results of sediment sample indicate acceptable (moderate or higher) EQS then no additional monitoring

Tier two

Where results of tier one sampling show unacceptable EQS:

- Three additional chemical sampling transects required to understand if effluents are localised
- No additional monitoring requirements if acceptable EQS found

Tier three

Where results of tier two monitoring at any zones show unacceptable benthic status:

- Triplicate (x 3) samples collected at tier two sampling points
- Samples screened through a mesh and all organisms preserved for taxonomic analysis
- If the dominant EQS category of each monitoring zone is acceptable, no additional monitoring required

In depth: monitoring and sampling

User-defined benthic monitoring programme

- Producers can defer to a monitoring approach that aligns with regional regulatory requirements
- These must have the same capacity to detect organic enrichment and address benthic ecological quality
- User-defined programmes must outline the operator's environmental policy and how the approach minimises negative impact on the benthos
- Programmes must use proven methodologies
- ASC must review the user-defined programme through an external committee. Approval of user-defined programmes is anticipated to be rare

UV sampling in-situ

- Sulphide measurements to be made in-situ using a field UV spectrophotometer
- Using this method provides immediate, replicable results

Sampling requirements in lakes

- When farming species in cages (marine/brackish), freshwater lakes or reservoirs or molluscs in a suspended system, a range of biotic and abiotic indicators need to be sampled and monitored
- The producer needs ensure there is an 'acceptable' benthic EQS
- For lake sampling, redox, pH and total ammonia nitrogen (TAN) measurements are used. Sulphide is not used
- Compliance is not mandatory for the first year of the Standard being effective

Improvements on current species standards

The ASC Farm Standard addresses benthic impacts more rigorously

Existing species standards

- Benthic impact requirements do not apply to all species or production systems
- Inconsistent across species and production systems
- Include a limited number of biotic and abiotic indicators for farms to select and show compliance
- Uses methodologies that have proven high variability in their results

New ASC Farm Standard

- **Standards and methodologies aligned across species**
- **Common methodology across species**
- **State of the art sampling methodologies**

The benefits

Why ASC is taking this approach

Protects habitats and life within the benthic community



Additional costs only where there is additional risk



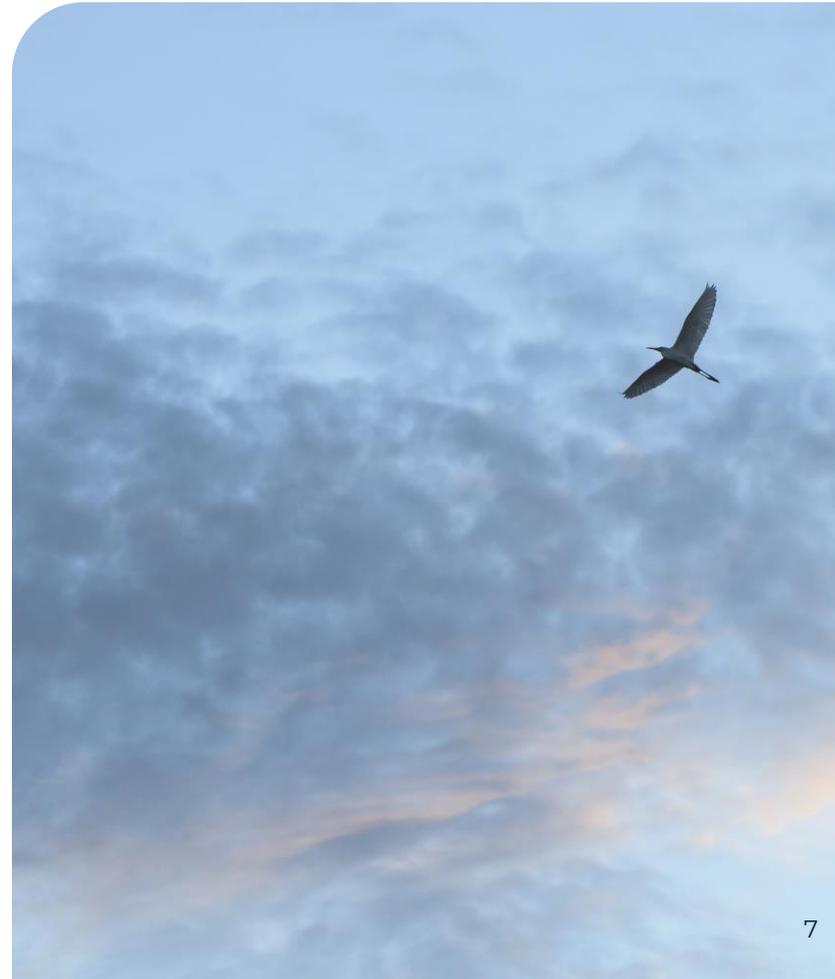
Flexibility to define custom methodology



Integration of up-to-date sampling methodologies



Consistent methodology improves auditability





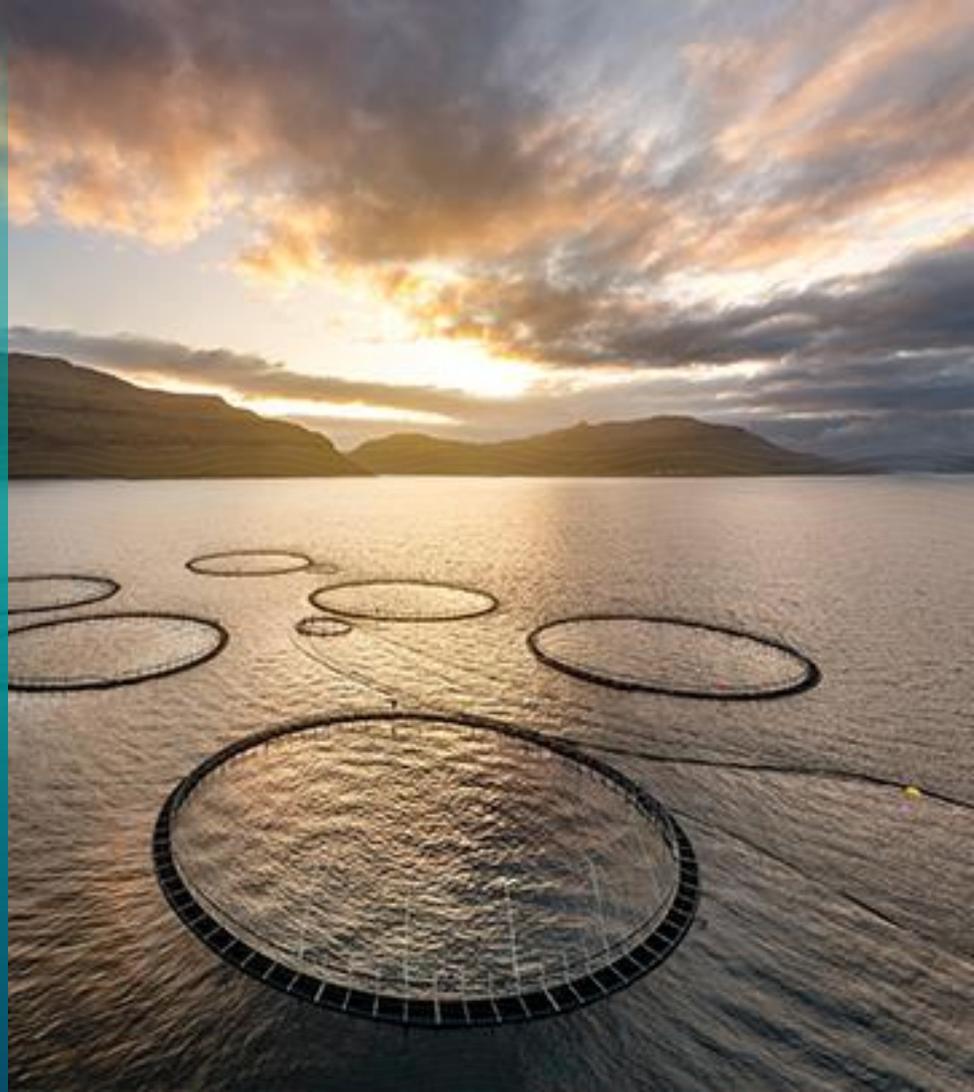
IN DEPTH

2.11 Material use, waste and pollution control

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2.11 Material use, waste and pollution control

The issue

- Aquaculture farms use materials and generate waste, some of which can be hazardous to marine life and in the sediments below the farm, such as copper-based antifoulants.
- Mismanagement, deliberate discharge and extreme weather are among the most common causes of waste from aquaculture operations into the environment.
- Among aquaculture-derived waste, plastics and “abandoned, lost or otherwise discarded (fishing) gear” (ALDFG), are important subgroups.

Our approach

- The farm prevents pollution through responsible handling and disposal of materials and prioritizing reducing, reusing and recycling waste materials.
- Substantial gear is identifiable to the farm to allow recovery if it is lost.
- Farms maintain a list of substantial gear to prevent inadvertent loss.
- Farms implement plans to ensure plastic waste is not discharged into the environment.

Additional information

Email: consultation@asc-aqua.org



Some materials are also available in Spanish, Vietnamese, French, German, Turkish, Japanese, Korean



In depth topic slides on:

[2.4 Alien Species](#)

[2.5 Benthic Impacts](#)

[2.6 Water Quality](#)

[2.10 Energy Use & GHG Emissions](#)

[2.14 Pre-grow Out](#)

[3.9 Working Hours](#)

[4.1 Animal Health and Welfare](#)

[4.3-4.4 Fish and Shrimp Health and Welfare – Slaughter](#)



[ASC Farm Standard Slides \(link\)](#)



[Full ASC Draft Farm Standard \(link\)](#)



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Indicators

Indicators:

Indicator 2.5.1

Indicator scope: marine/brackish cages, cages in freshwater lakes/reservoirs, and suspended marine mollusc systems.

The UoC shall monitor seabed organic enrichment following the benthic monitoring programme outlined in **Appendix 7**.

Indicator 2.5.2

Indicator scope: marine/brackish cages and suspended marine mollusc systems.

The UoC shall achieve an “acceptable” benthic status according to the Ecological Quality Status (EQS) in the area surrounding the farm as outlined in **Appendix 7**.

Indicator 2.5.3

Indicator scope: freshwater systems discharging into rivers.

The UoC shall conduct a macro invertebrate sampling downstream from the effluent discharge, as outlined in **Appendix 7**, to demonstrate benthic status that is similar to, or better than, sampling upstream from the discharge.

Indicators

Indicators:

Indicator 2.5.4



Indicator scope: marine/brackish cages, cages in freshwater lakes/reservoirs, and suspended marine mollusc systems.

The UoC shall annually report to ASC on EQS, in accordance with ASC data submission procedures.

Indicator 2.5.5



Indicator scope: freshwater systems discharging into rivers.

The UoC shall annually report to ASC the results of the macro-invertebrate sampling, in accordance with ASC data submission procedures.

Thank you



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