



Norway

The problem:

Norway is the world's largest farmed salmon producer, and is considered to have some of the leading regulatory mechanisms for environmental management and protection of wild salmon populations. Some of the companies operating in Norway also operate in Canada therefore demonstrating their ability to meet advanced requirements. Compared to many other jurisdictions on either side of the Atlantic Ocean, Norway's salmon runs remain relatively healthy, although some have declined in recent years.

Results:

Environmental Management

Criterion 2.1 – AVOID DAMAGE TO SEAFLOOR UNDER CAGES. NORWAY meets goal. All sites undergo 'Modelling- On-growing Fish Farm- Monitoring' (MOM) to assign a 5-point classification from "very poor" to "excellent" for minimizing impacts. Excellent sites are not required to have regular monitoring, and overall 40-50% of all sites monitored annually by local or regional government staff.

Criterion 2.2 – MAINTAIN WATER QUALITY AROUND SITE. NORWAY partly meets standard. "Excellent" sites not required to have regular monitoring, and overall 40-50% of all sites monitored for a comprehensive set of measures annually.

Criterion 2.4 – AVOID DAMAGE TO CRITICAL HABITATS AND SENSITIVE SPECIES. NORWAY meets standard. Norway has designated 52 wild salmon rivers and 29 fiords where aquaculture controls are more stringent. Grow-out operations must be at least 5 kms from the designated rivers, and salmonid production is banned from 14 rivers of high conservation value (former operators were removed after designation).

Protecting Wild Stocks

Criterion 3.1 – PROTECT WILD SALMON AND SEA TROUT. NORWAY meets criterion. Norway does employ bay management systems with fallowing and is working on zone based sea lice management. Norway investigating non-chemical controls for sea lice. Sea lice data available publicly and promptly. Norway moving towards larger smolt growth (1kg) in land-based facilities to minimize disease issues in ocean waters.

Criterion 3.3 – PROHIBIT GENETICALLY MODIFIED SALMON. Meets standard. No transgenic salmonids are allowed.

Criterion 3.4 – PREVENT ESCAPES. NORWAY meets standard. Norway adopted a vision for no escapees and has implemented a strict standard for system design along with government auditing of an industry code of containment. Interestingly, a levy paid by industry defrays the costs of government inspections and audits. All suspected escapes must be reported immediately, and these are published on the Department of Fisheries and Aquaculture website. Norway has implemented a DNA-based means for identifying unreported escapees, and this has held up in court for traces to the site and even cage level. This has been the preferred method over physical tagging due to cost and animal welfare issues.

Parasite and Disease Management

Criterion 5.1 – MANAGE FISH HEALTH – NORWAY partly meets criteria. Any pharmaceuticals used by the industry are reported to the public on an annual basis. Operators must count sea lice at least twice per month and if thresholds are exceeded and treatments are not effective then the NFSA (What is the long form?) can order the harvest of all fish at a site, extended fallowing, and other measures.



Criterion 5.2 – DOCUMENTING THERAPEUTANT USE – NORWAY meets criteria. Any pharmaceuticals used by the industry are reported to the public on an annual basis. Operators must count sea lice at least twice per month and if thresholds are exceeded and treatments are not effective then the NFSA can order the harvest of all fish at a site, extended fallowing, and other measures.

Criterion 5.4 – AVOIDING DISEASE SPREAD TO WILD POPULATIONS – NORWAY partly meets criteria. Any pharmaceuticals used by the industry are reported to the public on an annual basis. Operators must count sea lice at least twice per month and if thresholds are exceeded and treatments are not effective then the NFSA can order the harvest of all fish at a site, extended fallowing, and other measures.

Public Involvement

Criterion 7.1 – MEANINGFUL CONSULTATION AND COMPLAINT RESOLUTION - NORWAY meets criteria. Since the Ministry of Fisheries and Coastal Affairs establishes where aquaculture can and cannot take place, the site locations are pre-determined. Instead of proponents bringing forward applications for suitable sites, they must competitively bid for available sites. The species allowed and maximum biomass is also pre-determined, but other operational planning can be put forward by proponents. The Department coordinates applications on behalf of all departments. Public hearings are required at the municipal level with public notice given and all application documentation made available to the public. The applicant must incorporate potential conflicts with other user interests.

Criterion 7.2 – ABORIGINAL CONSULTATIONS – NORWAY partly meets criteria. Although difficult to find regulations or policy respecting Aboriginal consultation requirements, the general approach to consultation and public involvement is excellent in Norway.

Criterion	Norway
Avoid Damage to Sea Floor	Yes
Maintain Water Quality Around Site	Part
Avoid Damage to Critical Habitat and Sensitive Species	Yes
Protect Wild Salmon and Sea Trout	Yes
Prohibit Genetically Modified Salmon	Yes
Prevent Escapes	Yes
Manage Fish Health	Part
Document Therapeutant Use	Yes
Avoiding Disease Spread to Wild Salmon	Part
Meaningful Consultation and Complaint Resolution	Yes
Aboriginal Consultations	Part

Norway achieved a score of 82 out of a possible 100.

OVERVIEW

Conclusions and Recommendations

- Norway is the highest rated jurisdiction in achieving the standards associated with the ASC criteria.
- See principal backgrounder for recommendations, both general and specific