

Strengthening
the food supply
chain



Fishing boats in northern Norway
(photo © Erik Sterud/Standards Norway).

Sustainable aquaculture – Fundamentally international

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The industries, businesses and trades connected to fisheries and aquaculture are all fundamentally international in nature. This is true both of trade in fish and fish products, and of the production of equipment used in aquaculture and fisheries. Many of the processes involved have potentially far-reaching environmental impacts, and major consumer interests need to be taken into account.

Given its broadly international character, sustainability in the seafood sector depends quite heavily on transnational agreements and practices. Yet to date, there are no recognized international standards specifically for the sector. This is where ISO can play an important role.

Setting priorities

To develop International Standards for the sector, ISO established a new technical committee, ISO/TC 234, *Fisheries and aquaculture*. In assessing the requirements for standardization in the field of fisheries and aquaculture, ISO/TC 234 has proposed that initial priorities should include:

- terminology;
- technical specifications for equipment and its operation;
- characterization of aquaculture sites and maintenance of appropriate physical, chemical and biological conditions;

Main Focus

- environmental monitoring;
- data reporting;
- traceability;
- waste disposal.

Clearly, the work of ISO/TC 234 will not address any related issues already covered by other ISO technical committees. Therefore, the following are excluded from the new committee's scope:

- methods of analysis of food products and traceability;
- personal protective clothing;
- environmental management.



Fish farm outside Bergen, Norway
(photo © Britt Stokke Lonaas/Standards Norway).

Off to a dynamic start

Members presented a number of issues for information, discussion or consideration by the committee at its meeting in Spain in November 2008. Among these was the question of responsible fishing and specifications of good practice for fishing vessels. Development of specific standards will be carried out by working groups consisting of fishery and aquaculture experts nominated by the participating ISO members. To date, two working groups have been established to address:

- traceability of fish products;
- environmental monitoring of the seabed impacts from marine finfish farms.

An ad hoc group has been established to identify objectives, principles, needs and benefits for cage technology that would be used in developing standards.

Another ad hoc group has been created to identify business needs for standardization in the area of food safety for aquaculture farms. This will later be used to determine if this is within the area of ISO/TC 34 or ISO/TC 234.

Other groups and work items are under consideration and two advisory groups have been established on "aquaculture environmental management" and "aquaculture technology". In addition, an ad hoc group is further developing the ISO/TC 234 business plan.

Favourable environment for optimum health

The ISO system allows member countries to propose their national standards as drafts for international standards. In this connection, Standards Norway has two standards that can be considered as a starting point together with information, documents and experiences from other areas – one describing requirements for marine fish farms and another for environmental monitoring of fish farms. Working group WG 2 is addressing this latter question.

Favourable environmental conditions for farmed fish promote optimum health and growth. It is also important to avoid unnecessary environmental impact from marine finfish farms and

aquaculture. As an example, the Norwegian Ministry of Fisheries and Coastal Affairs requires all fish farmers to monitor marine fish farms in accordance with the Norwegian standard NS 9410 – *Environmental monitoring of marine fish farms* or equivalent standards. This standard describes methods for determining and monitoring bottom conditions based on the assumption that environmental conditions in the surrounding areas of fish farms are directly related to fish farm waste.

Avoiding slippery escapes

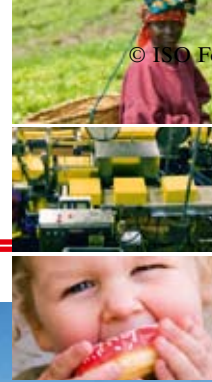
When they escape, farmed fish can inflict economic losses on aquaculture business. In addition, they represent a potential environmental problem. The Norwegian standard NS 9415 – *Marine fish farms – Requirements for design, dimensioning, production, installation and operation* is an example of one way to reduce such problems. This standard is designed to reduce the risk of escape due to technical failure and incorrect operation of fish farming installations.

It describes requirements for the physical design of cage nets, moorings, floaters, barges and auxiliary equipment, as well as for functionality after assembling the main components into a complete fish farming installation. Further, it describes how a complete installation should be placed in relation to the natural conditions in a given locality and how it

Fishing for new focus

ISO/TC 234, *Fisheries and aquaculture*, held its first meeting in October 2007 in Bergen, Norway. A second meeting was hosted by the *Asociación Española de Normalización y Certificación* (AENOR) in Madrid in November 2008. The secretariat is held by Standards Norway (SN), the ISO member which submitted the original proposal to set up this committee.

Although all ISO member bodies have the right to participate in technical committee work, it is particularly important to ISO/TC 234's success that the leading fishing and aquaculture nations are among its members. The committee currently has 16 fully participating national members and a further 16 observers. In addition, three international organizations are in liaison: the *Food and Agriculture Organization of the United Nations* (FAO), the *Codex Alimentarius Commission* (CAC) and the *International Union for the Conservation of Nature and Natural Resources* (IUCN).



Fish farm in Øksfjord, Norway (photo © Per Eide/The Norwegian seafood export council).

should be operated in order to achieve acceptable escape protection.

“The fishery and aquaculture industry must take into account important consumer interests.”

Valuable contribution

Figures show that seafood is the number one traded food in the world. So it is hardly surprising to learn that one in five people depend on fish as their primary source of protein. With growing populations and to some extent

dwindling wild fish stocks, sustainable solutions are necessary to meet world demand. Aquaculture is becoming an increasingly important part of the food supply chain. However, this can only be sustained with good practices, for the health of both the industry and the consumer.

About the authors



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“Favourable environmental conditions for farmed fish promote optimum health and growth.”

The development of well-chosen International Standards in the area of fisheries and aquaculture will be a valuable contribution to ensure safe and sustainable fisheries and aquaculture. ■