

Frequently Asked Questions

What was the Salmon Aquaculture Dialogue?

The Salmon Aquaculture Dialogue was a multinational, multi-stakeholder, and science-based forum initiated by the World Wildlife Fund (WWF) in 2004 to address the negative impacts of salmon farming. The goal of the Dialogue was to develop global standards that, when implemented, are intended to minimize or eliminate the key environmental and social impacts of salmon farming while permitting the industry to remain economically viable. The standards are intended to focus on today's best performers and are intended to be at a level where enough producers strive to achieve them, bringing about actual change on the ground.

The Dialogue was managed by a nine-member Steering Committee made of individuals representing conservation and industry groups. The organizations represented on the committee were: Canadian Aquaculture Industry Alliance, Coastal Alliance for Aquaculture Reform, Fundación Terram, Marine Harvest, the Norwegian Seafood Federation, the Pew Environment Group, SalmonChile, Skretting and WWF.

The Dialogue's Steering Committee handed the final standards and a draft audit manual over to the [Aquaculture Stewardship Council](#) on June 13, 2012. The ASC will oversee field-testing and finalization of the audit manual. The ASC will be responsible for working with independent, third-party entities to certify farms that are in compliance with the standards being developed by participants of the eight Aquaculture Dialogues.

The salmon Dialogue was one of eight multi-stakeholder Aquaculture Dialogues that have developed or still are developing species-group specific standards.

How are the Salmon Aquaculture Dialogue standards different than other standards?

- This was the first process for developing aquaculture standards that strived to meet the guidelines for standard setting that have been established by the International Social and Environmental Accreditation and Labeling Alliance (ISEAL), which are recognized as the most credible guidelines for standard setting. For more information about the guidelines, click here: <http://www.isealalliance.org/>. For example, the inclusive, multi-stakeholder process used to develop the standards was unprecedented among farm-level certification schemes today and led to greater credibility among a range of stakeholder groups. This balance of stakeholders ensured that the standards address key issues of concern while also being at a level that some portion of industry is willing to work to achieve the standard.
- The standards require an unprecedented amount of public disclosure of farm-level data from certified farms that are not currently available. Certified farms must disclose data related to a large suite of performance metrics (over 40 specific points are covered in Appendix VI of the final draft of the standards). This will allow stakeholders to understand how the actual

performance of these farms measures up and also will provide important data to other processes, research and analyses that are taking place. The data will also inform future iterations of the standard.

- The standards require farms to participate in area-based management (ABM), regardless of whether that is required by law in their region. The committee heard a clear scientific consensus from experts that ABMs reduce risks related to pathogens and parasites to wild and farmed fish and can lead to reduced use of therapeutants. The ABMs have specific minimum requirements, including a time period where the full ABM is completely fallow in order to break disease and parasite cycles.
- The standards require farms located in areas with wild salmonids to participate in the monitoring of sea lice on wild salmonids. This is an unprecedented ask of industry within a voluntary standard or purchasing policy. It will further build understanding of interactions and methods to reduce risk.
- The standards have stringent standards related to escapes that are unparalleled in other standards (e.g., organic, conventional and purchasing policies). The suite of escapes standards aim to move farms towards zero escapes by setting a limit on escapes (300 fish per production cycle), by requiring public transparency around unexplained loss of fish, and by requiring best practices around prevention and counting.
- The standards require certified farms to move away from open smolt production systems due to a range of environmental risks associated with these systems. In regions where there are wild salmonids, and risks are greatest, the requirement for certified farms to source smolt from closed or semi-closed systems is immediate. In regions without salmonids, a limited transition period is allowed and open smolt systems are not allowed under the standard 5 years after the publication of the Dialogue.

How did the Steering Committee arrive at the final standards?

The draft standards went through two rounds of public comment and sixteen public meetings were held around the globe over the course of the Dialogue process. Revisions were made based on public feedback from more than 60 organizations and the deliberations of the Steering Committee.

On any given standard, individual committee members may have had a range of views. However, as a package, the committee believes the standards represent an important step forward in defining environmentally and socially responsible production of farmed salmon by reducing key impacts while also being achievable by better performers within the industry. The committee members desire to see the sectors they represent try and support the implementation of the standards. This is distinct from the standard being something that committee members “endorse” as sustainable and moving forward with this final draft does not imply a commitment by any committee member organization or their constituents to meet the standard or become certified.

No standards are perfect. However, the multi-stakeholder committee used a structured, problem-solving approach to find innovative solutions and build consensus where possible on some of the tough issues. The standards are intended to be a starting point for continuous improvement and to be periodically updated to reflect best available scientific knowledge, management practices and technologies, and the data collected during the certification of farms to the standards.

Who was involved in developing the salmon Dialogue standards?

More people were involved in the process of creating the salmon Dialogue standards than have been involved in any other standard-setting process for salmon aquaculture. Approximately 500 people participated in the Dialogue, most often by taking part in the Dialogue meetings and/or submitting feedback during the public comment periods. (More than 50 organizations provided feedback during the public comment periods.)

The approximate break down of participants was 30 percent NGO, 30 percent industry (farming companies and feed and other suppliers), 20 percent scientists and 20 percent buyers/governments/other. The participants helped identify the impacts to address through the standards, review existing science and create the final standards. Almost 900 people subscribed to receive updates about the Dialogue.

Technical working groups, made up of scientists and academics, were created to help research issues related to salmon aquaculture. Members of the Dialogue were actively involved in choosing experts and developing a scope of work for each group. Each group was tasked with producing a "State of Information Report" that reviewed the status of existing research related to the impact, identified gaps or areas of disagreement in the research and suggested a process for addressing the gaps. Eight reports were created on such topics as sea lice, escapes and feed. The reports, which were used as the starting point for the development of the standards, are available at <http://www.worldwildlife.org/site/PageNavigator/SalmonSOIForm>

Why did the salmon Dialogue process taken so long?

Since 2004, the Steering Committee and other involved stakeholders dedicated an enormous amount of time to this effort. They had to strive to find consensus around solutions to some really tough issues and those negotiations took time. The length of the process had benefits as well. Since its inception, the salmon Dialogue accomplished a great deal. For example, the Dialogue commissioned a suite of scientific review papers that have contributed to a better understanding of the actual environmental and social impacts of salmon aquaculture; discussions within the salmon Dialogue led to the questioning of core assumptions about potential impacts by individuals and organizations; and the process played a significant role in developing relationships across stakeholder groups that has influenced the way companies and organizations work on these issues.

What potential negative impacts from salmon farming are addressed under the standards?

The standards focus on the seven key areas of negative impact from the grow-out of farmed salmon that were agreed upon by Dialogue participants, which are:

- Benthic impacts and siting: Chemicals and excess nutrients from food and feces associated with salmon farms can disturb the flora and fauna on the ocean bottom (benthos)
- Chemical inputs: Excessive use of chemicals - such as antibiotics, anti-foulants and pesticides – or the use of banned chemicals can have unintended consequences for marine organisms and human health.
- Disease and parasites: Viruses and parasites transfer between farmed and wild fish as well as among farms, presenting a risk to wild populations or other farms
- Escapes: Escaped farmed salmon can compete with wild fish and interbreed with local wild stocks of the same population, altering the overall pool of genetic diversity.
- Feed: Aquaculture must responsibly source and reduce its dependency upon fishmeal and fish oil – a primary ingredient in salmon feed – so as not to put additional pressure on the world’s fisheries.
- Fish caught to make fishmeal and fish oil currently represent one-third of the global fish harvest.
- Nutrient loading and carrying capacity: Excess food and fish waste in the water increase the levels of nutrients in the water and have the potential to lead to eutrophication.
- Social issues: Salmon farming often employs a large number of workers on farms and in processing plants, potentially placing labor practices and worker rights under public scrutiny. Additionally, conflicts can arise among users of the shared coastal environment.

In addition, the standards address key potential impacts on biodiversity through standards related to environmental impact assessments, siting in High Conservation Value Areas, and interactions with predators. Key impacts from the production of smolts (juvenile salmon) are also addressed in the standards.

How do the standards drive innovation and continuous improvement over time?

The standards require an extensive amount of data collection and data transparency, which will contribute to better understanding of actual impacts and data that can be used to improve the standards over time.

In a handful of key areas, the standards have built in an increase in the rigor of the standard over the next 3-5 years. The salmon Dialogue sets standards that are applicable immediately, and requires further change anywhere from 3-5 years after the publication of the standard. Individual areas where the standards incorporate a stepwise approach include: the use of acoustic deterrent devices that may harm marine mammals and cetaceans, the production of smolts in open systems, total load of

antibiotics and parasiticides, and sourcing of fishmeal, fish oil, and soy for salmon feed.

Some standards, such as those addressing farm interactions with wild salmonid populations, reflect innovative approaches that aren't used in existing standards. For instance, the draft standards require a farm to participate in an area-based management scheme around health and disease issues, to monitor lice levels on wild fish, and offer public disclosure around lice level monitoring results on the farm and in the wild.

How do farm level standards address cumulative impacts?

In developing these standards, the committee recognizes that there is an important role for governments in identifying appropriate areas for protection of biodiversity along with areas that may be appropriate for aquaculture and other economic activities. The Steering Committee recognizes that farm-level standards must be complemented by effective governmental regulations and coastal zone planning.

The salmon Dialogue standards, like other aquaculture certification schemes, are farm level standards that ensure performance of that particular farm. Some stakeholders are concerned with the scale of the industry more broadly and environmental risk from cumulative impacts and issues of scale. Although their focus is the farm level, the Dialogue standards incorporate a range of standards that help address cumulative effects in addition to farm-specific impacts. For example, the standards related to benthic health ensure that ocean bottom around the farm is healthy—if farms are located too close to each other one farm might fail this standard because of the impact from a neighboring farm. However, it is important to recognize that these standards do not fully address issues of scale and must be accompanied by appropriate coastal zone planning and management.

Do the standards allow for transgenic salmon or transgenic feed ingredients?

The standards do not allow for the production of transgenic salmonids due to concerns about their unknown impact on wild populations. The standards do allow for the use of transgenic feed ingredients (such as soy), but they require transparency and traceability around the use of these ingredients.

How do the standards address animal welfare?

Farmed fish welfare is not an explicit goal of any of the Aquaculture Dialogue standards. However, there are a number of standards within the salmon Dialogue that contribute directly to ensuring the welfare of farmed salmon. The rigorous fish health management standards within the salmon Dialogue are directly related to farmed fish welfare. The salmon Dialogue standards will not be met without humane handling of fish, minimization of fish stress, good water quality, and appropriate density for the site. For companies that wish to demonstrate extreme rigor with relation to animal welfare, the salmon Dialogue committee recommends adding an independent welfare certification to their portfolio.

Do the standards address food safety?

Food safety is not an explicit goal of any of the Aquaculture Dialogue standards. The vast majority of farmed salmon production is already certified under a food safety certification scheme. The scheme used depends on the production region and the requirements of the buyer (e.g. retailer or food service). The salmon Dialogue standards are intended to complement rather than replace those food safety schemes. The ASC is open to exploring working with their accredited certification bodies and with credible food safety certification schemes to harmonize and streamline auditing processes.