



RSPCA APPROVED SALMON

QUESTIONS & ANSWERS

ABOUT AQUACULTURE

What is aquaculture?

Aquaculture is the term used to describe the farming of aquatic animals and plants in marine or freshwater environments for the purpose of human consumption. Aquaculture may be land-based – in large tanks or ponds – or at sea in large pens. The rearing of RSPCA Approved farmed Atlantic salmon is a combination of land-based and sea-based farming systems.

Do fish feel pain?

The available scientific evidence demonstrates that fish are sentient animals capable of experiencing pain and suffering. Therefore, where fish are farmed, we believe their welfare must be considered as a priority. Find out more on the [RSPCA Knowledgebase](#).

Is stocking density an issue for farmed salmon?

Farmed salmon typically spend 10 to 16 months in large fresh water tanks on land, then 14 to 18 months in sea pens.

While stocking density on its own is not a good indication of fish welfare, at higher stocking densities, fish are more likely to become injured (either through contact with each other or the pen), and are more susceptible to infections and disease.

Stocking density also affects the amount of space that fish have available to express their behavioural needs. In marine pens, fish tend to school (swim in the same direction in a coordinated manner) during the day but at night, they rise to the surface, swim slower and gradually move away from each other.

The RSPCA Standard includes requirements to provide enough space for salmon to swim normally, safely and express their natural behaviours, such as schooling with other fish.

What are farmed Atlantic salmon fed?

Salmon feed contains fish meal and oil, vegetable ingredients such as wheat, soya derivatives, corn gluten and vegetable oils, vitamins, minerals, meat and chicken meal, blood meal, and poultry oil. Using land animal by-products in the feed utilises 'waste' from other farming, which improves the sustainability of both land-based and sea-based aquaculture farming production. Find out more on the [RSPCA Knowledgebase](#).

Is salmon flesh dyed pink?

The pink colour of salmon comes from a pigment called astaxanthin which has antioxidant properties. Astaxanthin is an important part of a salmon's dietary requirements. Salmon in the wild would consume astaxanthin when eating plants, microbes, crustaceans and other foods as part of their usual diet. Because they may not have access to the same diversity of foods, farmed salmon are given a man-made version to supplement their diet with the same nutritional benefits.

What about ethoxyquin in salmon feed?

Ethoxyquin is a preservative (antioxidant) added to animal feed. Its use in Australia, including any residue in salmon product, is subject to regulation.

Do farmed fish suffer from sea lice?

In the northern hemisphere, sea lice infestations in salmon farms can present a serious risk to fish health and welfare. Australian farmed Atlantic salmon come from Tasmania where sea lice are not found.

What is salmon bathing and why is it done?

Amoebic gill disease (AGD) is a parasitic condition common in Atlantic salmon farmed in Tasmania. The parasitic amoeba attach to the gills and can affect the fish's ability to breathe.

To combat AGD, fish are bathed frequently in fresh water to detach the parasites from the fish gills. This is a labour-intensive exercise and, moreover, subjects fish to multiple handling events which can cause stress. Careful handling and monitoring is a must.

A vaccine developed in research trials was not successful. Breeding for AGD resistance appears to be the solution and is already being practiced and has the potential to reduce the number of bathes to one fifth of that in non-resistant fish. Increased genetic gain can be expected with ongoing selection for AGD resistance.

How are farmed Atlantic salmon slaughtered?

At harvest, farmed Atlantic salmon may be removed from their sea pens through large pipes and transferred to special harvesting boats that sit alongside the pen. Alternatively, well boats are used or the whole pen is slowly towed

towards shore where fish are transferred directly to a harvest plant. Before harvest, fish may be fasted for a few days in order to reduce the oxygen demand required to digest their food. By reducing this oxygen demand the fish are better able to cope with the harvest process. The harvest process keeps fish in water as long as possible before they are stunned using a percussive blow to the head. Subsequently, the unconscious fish are bled and immersed in ice slurry for transport to processing plants where they are gutted, washed and processed into fresh, frozen or smoked product.

Are there animal welfare concerns with wild caught salmon?

A key animal welfare concern with wild-caught fish (as well as farmed fish) is how they are slaughtered. In Australia, farmed Atlantic salmon are individually stunned (made insensible to pain) prior to slaughter. Adherence to standards around the careful handling and effective stunning of fish prior to slaughter is important and, for wild-caught fish, the RSPCA strongly supports further research and development in how to effectively and humanely stun and kill fish when they are caught in the wild.

LIFECYCLE OF FARMED ATLANTIC SALMON

1 Incubation/hatching	2 Freshwater stage
<p>In salmon farming, the fish production cycle starts with laying down of eggs in the hatchery during the early winter months (although eggs can be produced at any time of the year to ensure year-round supply of salmon product). Eggs and milt from selected breeding stock are mixed together to produce fertilised eggs. The fertilised eggs are then placed in purpose-built incubators at specialised hatcheries where their environment aims to mimic egg incubation in the wild, for example, by providing substrate in which eggs can nestle and clean water flow providing plenty of oxygen for the eggs to grow. The incubation period can be affected by water temperature but is typically around 40 – 50 days. The hatchlings (called 'alevins') absorb nutrients from a yolk sac attached to their bodies and they remain in the hatching environment for another month or so at which time they are able to feed independently.</p>	<p>Once the hatchlings are able to feed independently they are referred to as 'fry' and are transferred to small freshwater tanks within the hatchery. While in the hatchery, the fish are vaccinated against diseases that they may be exposed to later in life. As the fish grow, they are transferred to bigger tanks. Distinct vertical markings appear on the fish which, in the wild, serve as camouflage. At this stage, fish are referred to as 'parr'. As they grow out in large tanks at the hatchery, the fish undergo further transformation: the vertical markings are replaced by a silvery sheen and the edges of the fins darken. At the same time, physiological changes occur internally which allows the Atlantic salmon to survive in seawater. This process is called 'smoltification' and the fish, at this stage, are referred to as 'smolts' and they are able to be transferred to sea.</p>
3 Seawater stage	4 Harvest
<p>When farmed Atlantic salmon are able to be transferred to sea, they are transferred out of their hatchery tanks through water-filled pipes and transported in large water-filled tanks to the sea shore. From here, they may be transferred via pipes directly into their sea pens or to water-filled tanks in purpose-built boats (called 'well boats') that then take the fish to their sea pens where they will grow out for about the next year and a half. The sea pens are large, netted enclosures which not only prevent the fish escaping but also protect them from predators such as seals. Fish grow out to an average weight of around 5kg by which time they are ready to be harvested and slaughtered.</p> <p>In salmon aquaculture systems, fish typically spend 10 to 16 months in fresh water (on land) plus 14 to 18 months in the sea pens before they are ready for harvest and slaughter.</p>	<p>At harvest, farmed Atlantic salmon may be removed from their sea pens through large pipes and transferred to special harvesting boats that sit alongside the pen. Alternatively, well boats are used or the whole pen is slowly towed towards shore where fish are transferred directly to a harvest plant. Before slaughter, fish may be fasted for a few days in order to reduce the oxygen demand required to digest their food. By reducing this oxygen demand the fish are better able to cope with the harvest process. The harvest and slaughter process keeps fish in water as long as possible before they are stunned using a percussive blow to the head. Subsequently, the unconscious fish are bled and immersed in ice slurry for transport to processing plants where they are gutted, washed and processed into fresh, frozen or smoked product.</p>

Why was the RSPCA Approved Farming Scheme established and how does it work?

The RSPCA Approved Farming Scheme exists to improve the welfare of farmed animals.

In the absence of better legal requirements for Australia’s most intensively farmed animals, the RSPCA Approved Farming Scheme was developed as a solution to drive better welfare standards on farm.

As an animal welfare organisation committed to science- and evidence-based policy, one of the most meaningful ways we can improve the lives of farmed animals is to ensure they are reared in an environment that meets their individual needs and encourages them to express their natural behaviours.

The RSPCA Approved Farming Scheme’s mission is to improve the lives of as many animals as possible, that are being farmed today. To achieve this, the RSPCA has developed detailed animal welfare standards for dedicated farmers to meet, and has established the RSPCA Certification Body to conduct assessments and certify farms, forming part of RSPCA Australia’s charitable activities with the purpose of improving the lives of farmed animals.

Our Standards set a higher level for animal welfare by aiming to give some of Australia’s most intensively farmed animals a better quality of life. They reach beyond the current legal requirements while still being commercially viable. These Standards are developed by RSPCA Australia’s Science team and are reviewed every five years.

RSPCA Approved farms receive regular assessments from an RSPCA Assessor to check that they are meeting the Standards. Producers are also required to submit information detailing both production data and any on-farm issues between assessments.

Brands marketing products as RSPCA Approved must have traceability systems in place to make sure these products are clearly identified, kept separate from other products, and can be traced from point of sale back through to the farm.

Donations to the RSPCA are not used to fund the RSPCA Approved Farming Scheme.

A company or producer that wishes to participate in the RSPCA Approved Farming Scheme must meet the RSPCA’s detailed animal welfare Standards and be subject to a rigorous certification program. This program includes participating in frequent on-site assessments by RSPCA Assessors who provide their reports to the RSPCA Certification Body for review.

The costs of running the Scheme, including having RSPCA Assessors visit farms and the RSPCA Certification Body overseeing these assessments, is covered by a licensing fee. This fee is paid by those that use the RSPCA Approved brand and is calculated with consideration of how much it costs to have the company, brand or producer participate and be certified.

Why does the RSPCA have a Standard for farmed Atlantic salmon?

Aquaculture remains one of the fastest-growing animal protein production sectors in the world, so as an animal welfare organisation, the RSPCA considers it critical that good farm animal welfare is seen as a crucial component of this.

RSPCA Australia aims to improve the lives of as many farm animals as possible, including farmed fish. One way in which we do this is through the RSPCA Approved Farming Scheme. Since releasing animal welfare standards for farmed Atlantic salmon in 2016, more than 11.9 million fish have benefitted from better conditions on farm. There are currently three major salmon producers in Tasmania, and to date, Huon Aquaculture is the only one that has been able to meet the RSPCA Standard and be subject to rigorous certification processes.

If the Scheme is to achieve its mission of improving the lives of as many farm animals as possible, today, it’s imperative that we work with large scale producers to raise the bar and make sure these industries are encouraged along a continuous pathway of improvement. Find out more on the [RSPCA Knowledgebase](#).

What does the RSPCA Standard mean for farmed Atlantic salmon?

Since releasing an animal welfare Standard for farmed Atlantic salmon in 2016, more than 11.9 million fish have benefitted from better conditions on farm (as of December 2020).

For good fish welfare the RSPCA Standard for farmed Atlantic salmon include a focus on managing water oxygen levels,

KEY WELFARE REQUIREMENTS OF THE RSPCA STANDARD – FARMED ATLANTIC SALMON

- Access to a quality and nutritious diet
- A focus on managing water oxygen levels,
- Temperature and stocking densities to make sure salmon have the space to swim effortlessly and can perform natural schooling behaviours with other fish
- Good management and husbandry to protect salmon from injury and disease
- Good stockpersonship with a focus on low-stress handling and animal welfare
- Humane slaughter, including pre-slaughter stunning

temperature and stocking densities to make sure salmon have the space to swim effortlessly and can perform natural schooling behaviours; good management and husbandry to protect salmon from injury and disease; good stockpersonship with a focus on low-stress handling and animal welfare; and humane slaughter.

The RSPCA’s Standards are [publicly available here](#).

How are the RSPCA Standards underpinned by the Five Freedoms?

The Five Freedoms was the first widely accepted evidence-based framework to capture the key aspects of animal welfare in one model. They posit that animals should be free from hunger and thirst; free from discomfort (by providing an appropriate environment); free from pain, injury and disease; free to express normal behaviours; and, free from fear and distress.

The RSPCA's animal welfare Standards build upon this framework. They're based on current animal welfare science and focus on meeting an individual animal's physical and behavioural needs.

In the case of farmed Atlantic salmon, this includes access to a quality and nutritious diet; a focus on managing water oxygen levels, temperature and stocking densities to ensure salmon have the space to swim effortlessly and can perform natural schooling behaviours; good management and husbandry to protect salmon from injury and disease; good stockpersonship with a focus on low-stress handling and animal welfare; and humane slaughter that includes pre-slaughter stunning.

How rigorous is the RSPCA Approved certification?

To be RSPCA Approved, farms must meet the RSPCA's detailed animal welfare Standard and go through a rigorous certification program. This includes frequent on-site audits at locations where the salmon are bred, raised and slaughtered to make sure the RSPCA Standard is being met.

RSPCA Assessors conduct assessments at all marine sites at least every 2 years, and all freshwater sites annually. All salmon handling processes are also assessed annually, these include; spawning, eggs and juvenile fish management and handling, grading, immersion vaccination, fry road transport, intraperitoneal vaccination, smolt road transport, bathing and slaughter.

Since applying to join the Scheme in 2016, Huon Aquaculture have been subject to 84 assessments.

How does an aquaculture company join the RSPCA Approved Farming Scheme?

For an aquaculture company to participate in the Scheme as a producer, firstly an application must be submitted to the RSPCA Certification Body. Applicants must complete and submit documentation for each of their production sites, an Animal Care Statement, a Veterinary Health Plan and a self-assessment in which they must address every requirement of the Standard and provide evidence of how they believe these are met by their business.

The completed application documentation is reviewed by the RSPCA Certification Body to make an informed judgement as to whether the requirements are being appropriately fulfilled. Where it is judged that these requirements are likely being met, a site assessment is planned and scheduled for the purpose of verifying conformance.

Assessments are conducted by an RSPCA Assessor, who compiles an Assessment Report which is submitted to the Certification Body for review. The Certification Body reviews the report, and the applicant's responses to any identified nonconformances.

A certification decision is made by Certification Body personnel who are not involved in the application process,

applying certification policies and procedures utilising information from the review.

Where the decision is to certify the application the producer is then subject to ongoing assessments as per the requirements under the Scheme.

The length of the production cycle of farmed Atlantic salmon, and our requirement to assess all parts of this, means that it takes approximately 2 years from the initial application to certification being given.

How much do companies pay to have their salmon RSPCA Approved?

The RSPCA Approved Farming Scheme is run as a not-for-profit program. In the 2019–2020 financial year, the total cost of running the Scheme was \$1.87M and total income under the RSPCA Approved Farming Scheme was around \$1.57M, of which \$1.43M came from licence fees across all species — with fees from salmon participants being the third lowest contributor.

A company or producer that wishes to have RSPCA Approved certification must meet the RSPCA's detailed animal welfare Standards and participate in the rigorous certification program. This program includes participating in frequent on-site assessments and having a traceability system in place that can trace a product from point of sale back to the farm.

The costs of running the Scheme, including having RSPCA Assessors visit farms and the RSPCA Certification Body overseeing these assessments, is covered by a licensing fee. This fee is paid by those that use the RSPCA Approved brand and is calculated with consideration of how much it costs to have the company, brand or producer participate and be certified.

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Does the RSPCA Standard for farmed Atlantic salmon address the potential environmental impact of aquaculture systems?

Compliance with regulatory requirements in relation to environmental impact management and monitoring is a prerequisite of the RSPCA Standard for farmed Atlantic salmon.

While the RSPCA and the RSPCA Approved Farming Scheme Standards are focused on improving animal welfare, we recognise that — like all farming systems — aquaculture does have an impact on the environment. That's why aquaculture companies participating in the RSPCA Approved Farming Scheme, in addition to meeting government regulations, must demonstrate ongoing compliance with a recognised, third-party audited certification scheme that promotes best environmental practice. Find out more on the [RSPCA Knowledgebase](#).

Can salmon farmed in Macquarie Harbour be RSPCA Approved?

The farming of salmon in Macquarie Harbour is not permitted under the RSPCA Approved Farming Scheme.

Through the Scheme, the RSPCA currently certifies Huon Aquaculture's applicable salmon sites. Currently 98% of Huon Salmon is farmed to the RSPCA Standard. This means that 98% of Huon Aquaculture's salmon does not come from Macquarie Harbour.

How do RSPCA Approved salmon farms protect fish from predators, such as seals?

Fish are vulnerable to stress, injuries and mortalities as a result of interactions with predators, such as seals.

The RSPCA Standard aims to strike a balance, between the need to maintain good fish welfare by protecting farmed Atlantic salmon from predators and safeguarding the welfare of seals and other predator animals.

From the RSPCA's perspective, exclusion measures must be the primary method of preventing seals and sea birds from attacking salmon. Over recent years, pen net technology has become very sophisticated and more effective in keeping predators out and fish safe.

At the same time, safeguarding the welfare of seals and other predators is important. The use of seal deterrent devices must meet the requirements set out by the Tasmanian Government.

The RSPCA Standard for Farmed Atlantic Salmon has prohibited the use of bean bags, scare caps, electronic seal scarers and 'pingers' since January 2019.

Where seals have been able to breach a pen's outer netting and are causing harm or distress to fish, seals must be given the opportunity to swim out of the pen of their own accord. This is done by lowering outer nets.

In instances where seals don't swim out of pens on their own, in order to protect fish from further harm and maintain a safe environment for people working at these sites, the limited use of crackers (in accordance with Tasmanian Government requirements) is permitted as a last resort. If a seal does not voluntarily swim out after lowering of the nets, crackers can be dropped in the water at a safe distance so that the seal swims away from the flash/noise and out of the pen. Based on existing research, the proper use of crackers as a deterrent device appears to have the least potential to cause harm to seals.

There is very limited research available on the immediate and longer-term effects of deterrent devices on seal welfare. The RSPCA continues to urge the Tasmanian Government and the salmon farming industry to invest in this neglected area of research.

The use of any seal deterrent device must meet the requirements set out by the Tasmanian Government. It is our expectation that the Tasmanian Government ensures the proper conduct of these requirements and follows up on any alleged misconduct or complaint.