



ALLIANCE™

<https://www.globalseafood.org>Health &
Welfare

Tasmanians pursue selective breeding to produce salmon with improved heat and disease tolerance

17 November 2025

By Responsible Seafood Advocate

Producers say selective breeding has yielded salmon with stronger tolerance to heat and *P. salmonis* after last summer's mass losses

Two salmon producers operating in Tasmanian waters have used selective breeding to produce Atlantic salmon that can better withstand warmer conditions and *Piscirickettsia salmonis* – a bacterial disease linked to a mass mortality event last summer that killed up to 15,000 tonnes of fish.

Huon Aquaculture and Tassal, which farm salmon in south-east Tasmania, report that they examined the DNA of about 10,000 fish to identify individuals that showed greater resilience to heat stress and the *P. salmonis* pathogen. The companies say the approach marks the first time their selective breeding programs have specifically targeted resistance to the bacteria.



Two salmon producers operating in Tasmanian waters have used selective breeding to produce Atlantic salmon that can better withstand warmer conditions and *Piscirickettsia salmonis*. Photo courtesy of Huon Aquaculture (<https://www.facebook.com/photo.php?fbid=1145865527686795&set=pb.100067900754832.-2207520000&type=3>).

“We can use the top 1 per cent of our males like a stud bull,” Huon breeding program manager Lewis Rands told the ***Australian Broadcasting Corporation (ABC) News*** (<https://www.abc.net.au/news/2025-11-13/tasmanian-salmon-selective-breeding-for-heat-resistance/106005572>). “Choosing the very best fish has a massive impact on our whole industry.”

P. salmonis can cause fish to stop feeding and become emaciated, often leading to death. The pathogen was identified as a major factor in the January to April mortality event, during which time dead fish matter washed ashore on southern Tasmanian beaches.

A banner for the Global Seafood Alliance. On the left is the logo, which consists of a stylized fish head inside a circle with the text 'Global Seafood ALLIANCE'. To the right of the logo is the text 'For the love of seafood.' in a large, blue, serif font. Below this text is a blue button with the white text 'BECOME A MEMBER'. On the far right of the banner is a small photograph of a smiling woman in a white top.

(<https://www.globalseafood.org/membership/>).

As reported by *ABC News*, juvenile salmon from the selective breeding program are expected to be transferred to ocean pens in February. However, Salmon Tasmania's chief executive, John Whittington, said any gains from the new genetics are not expected to influence outcomes in the coming summer.

"We will see [that] over the coming years," he said. "This summer, it's the other tools in the toolbox that we're relying on: the vaccines, the feeding and antibiotics, when necessary."



Does aquaculture really need a heat-tolerant salmon to adapt to rising ocean temperatures?

With rising ocean temperatures, are efforts to breed a heat-resistant salmon a race against nature? Or does the ideal fish for tropical aquaculture already exist?



Global Seafood Alliance

In September, producers announced that salmon in the state's south-east had been vaccinated against *P. salmonis*, although vaccine efficacy is not yet known. Last week, the industry received federal approval for florfenicol, a new antibiotic that Huon Aquaculture and Tassal have since administered at several sites.

Selective breeding has been part of the companies' operations since 2004, but Rands said this year's effort was the first to focus directly on *P. salmonis*.

"This stock we know for sure will have a better survivability, and we'll have to measure that when it gets to sea," he said. "As devastating as it was to lose fish over summer, we collected a lot of genetic knowledge [...] and we've used that to create this new generation."

A Tasmanian government debrief released after the mortality event found the industry lacked a mass mortality response plan, which contributed to delayed decision-making. The report recommended the use of multiple disease-management measures, including selective breeding, vaccination, antibiotic treatment, epidemiological surveillance, on-farm practices and pathogen-specific regulations.

Company scientists say monitoring of the selectively bred fish will continue after their release into ocean pens early next year.

Author



RESPONSIBLE SEAFOOD ADVOCATE

editor@globalseafood.org (mailto:editor@globalseafood.org).

Copyright © 2025 Global Seafood Alliance

All rights reserved.