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Slow supply growth raises ‘peak salmon’ fears

By Emiko Terazono

Could the world be facing “peak salmon”?

Strong demand and slowing production growth have sent prices to record highs, making life good for salmon farmers.



Export prices from Norway, the world’s largest farmed-salmon producer, hit more than Nkr50 (\$8) per kg at the end of last year due to supply concerns.

Worries about “peak fish” – akin to the theory in oil circles of output peaking before declining due to limited reserves – have been around for years, but “peak salmon” could now turn into reality.

“The rise in prices is driven by the fear of lack of supply,” says Piotr Wingaard of FishPool, which trades forward contracts for salmon. “It’s very difficult to see substantial volumes coming through.”

As a protein food and a leading source of Omega-3, a healthy fatty acid, demand for salmon has been soaring from developing countries as well as the US and Europe. Some industry experts and conservationists warn that the farmed salmon sector – which accounts for two-thirds of the salmon consumed in the world – is approaching capacity limits.

The issues surrounding the industry include falling availability of wild fish used as feed, geographical constraints in salmon farming, disease and environmental concerns.

One of the constraints to output is the accessibility of fish oil. Farmed salmon are mainly fed pellets made of, among other things, fishmeal and fish oil, and although feed companies have cut the fish meal content to 15 per cent of the pellets, they have yet to replace fish oil, the source of Omega-3, produced mainly from wild fish in Latin America.

“The peak in wild ocean fish means peak salmon,” says Andy Sharpless, chief executive of Oceana, a marine conservation organisation.

Growth in salmon farming is also constrained by the handful of countries where profitable production is possible. Salmon is grown in clean, cold water with steady currents and protected coastlines, such as the fiords of Norway or the sea lochs of Scotland.

Each production area has a limited output capacity due to the potential threat of disease and environmental damage. Due to local opposition, competition from other industries such as tourism, and concerns about the ecological effects of farms, such as pollution and sea lice infestations, new sites are increasingly hard to launch.

Most countries regulate the number of farms and licences offered, with Norway – which accounts for slightly more than a half of the world’s farmed salmon production – for example, not extending licences since 2009.

Production capacity for aquaculture is likely to be on the agenda this week as government officials, leading importers and exporters and NGOs gather in Bergen, Norway, for the UN Food and Agriculture Organisation’s biennial forum for fish trade.

With 2014 expected to become a landmark for the fish industry, when consumption of the farmed fish surpasses that of wild varieties, they will also be discussing new developments that will help the salmon sector avoid reaching production constraints.

The elimination of bottlenecks will only bring you marginal supply growth

As “fracking” allowed oil producers to release crude oil previously thought inaccessible, experts are hoping new technological developments in fish farming will help increase output growth.

On the feed issue, some companies are looking to extract Omega-3 from algae, while [Monsanto](#) is researching soybeans that produce the fatty acid.

In order to reduce the amount of time the salmon spends in the ocean farms, companies are seeking affordable ways to lengthen the period that the salmon spend in on-land facilities.

AquaBounty, a US biotechnology company listed on the UK's junior Aim market, is looking to commercialise genetically modified salmon, which grow faster than the normal fish. There is also research under way for offshore salmon farms, say researchers.

Ragnar Nystoyl of Kontali Analyse, a research group specialising in fish, acknowledges that offshore production raises competition issues with other sectors, such as the oil and fishing industries, while access to land is an issue when trying to increase onshore farming.

"However, if demand continues increasing and prices continue rising, then these options will be more and more viable," he says.

It's great to be a salmon producer today and it looks like it's going to be great in the intermediate term

- Frank Asche, University of Stavanger

In the worst case scenario for salmon production, output will plateau, says Frank Asche, a marine economist and professor at the University of Stavanger in Norway.

Even with such breakthroughs, some experts are doubtful that additional supply will keep up with the growing demand, estimated at 5-10 per cent a year.

"The elimination of bottlenecks will only bring you marginal supply growth," says Ejnar Knudsen at AGR Partners, a California-based private equity group with a food and agriculture focus. He sees future production capacity being limited to slightly more than 3m tonnes, just 14 per cent higher than it is now.

The combination of limited supply growth and the push for healthy eating expected to keep demand growth for salmon buoyant means prices are expected to remain high.

"It's great to be a salmon producer today and it looks like it's going to be great in the intermediate term," Prof Asche says.

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