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SeaWeb Aquaculture News

Aquaculture News and Information from Around the World

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Mussels and Kelp Help Salmon Farmers Reduce Pollution

Mussels and kelp are being grown alongside salmon pens in Canada's Bay of Fundy in an attempt to reduce the level of pollution caused by net-pen aquaculture. The technique, known as integrated multitrophic aquaculture (IMTA), is being put into practice by Cooke Aquaculture and scientists from the University of New Brunswick and Canada's Department of Fisheries and Oceans.



Net-pen farming can lead to pollution of coastal waters as organic waste and nutrients seep from pens into the surrounding environment. Sediment, including fish excrement and uneaten food, can settle on the seabed and smother vulnerable habitats. High levels of dissolved nutrients in the water surrounding fish pens can promote the growth of nuisance species, including algae harmful to humans and other animals.

IMTA works by recreating a portion of a natural food web or ecosystem. Mussels and kelp grow by filtering and absorbing organic material and nutrients from the water, and so reduce the level of pollution associated with adjacent salmon pens. The growth rate of these commercially important species is enhanced when grown alongside fish pens, so fish farmers' profits could also increase.

Most research to date has focused on mussels and kelp, however there is potential for a number of other species to be produced in this way, including sea urchins, sea cucumbers and scallops. As public awareness of the potentially harmful consequences of aquaculture increases, IMTA offers a way for fish farms to improve their environmental credentials and profit margins simultaneously.

Image of giant kelp courtesy of NOAA

Read more:

[University of New Brunswick](#)

[Telegraph-Journal](#)

[Global Aquaculture Advocate](#)

Aquaculture Expanding in Iraq



Aquaculture facilities in Iraq are being expanded and rebuilt through cooperation between local farmers, Iraqi agricultural unions, the U.S. Army and the U.S. Agency for International Development (USAID). Carp have been cultivated in Iraq for generations but fish farms have suffered the effects of decades of war and sanctions. By rejuvenating the industry, thousands of badly needed jobs could be created.

Startup and repair costs for carp farms are relatively low but can still be prohibitive for Iraqi farmers. Many have received USAID microgrants, enabling them to rebuild or expand operations. Farms have also benefited from the repair of canals, vital to ensure a water supply for their ponds. Fish feed and carp hatchlings are produced locally, providing additional jobs and income.

Abdul Jabar Abid Kasim, of Al-Buaytha, is one farmer to have benefited from a microgrant. Although he was already producing enough fish to feed his family, the grant has enabled him to repair his water pump and buy high-quality feed, and he now hopes to harvest about 3,300 pounds (1,500 kilograms) of carp to sell in Baghdad.

Image of harvesting at Abdul Jabar Abid Kasim's fish farm courtesy of U.S. Army

Read more:

[PR Newswire](#)

[US Army News](#)

Closed-system Aquaculture is Growing

A new report from the David Suzuki Foundation and the Georgia Strait Alliance has found closed-system aquaculture to be a diverse and rapidly expanding sector. Closed systems come in a variety of forms, including onshore tanks, ponds and artificial streams (raceways), and offshore closed containers. Outputs from closed systems, including fish waste and uneaten food, can be carefully controlled. This reduces their negative environmental impacts relative to cages and net pens, which can have high levels of associated pollution, fish escapes and disease transfer to wild populations. Water entering the system



can also be tightly controlled, enabling fish farmers to reduce the incidence of disease without the use of antibiotics and provide optimum conditions for growth.

A number of systems are currently in use around the world, with many more at the experimental stage. Form and function vary, and include: flexible bags, in which salmon and trout are cultivated in open water; shallow containers, used to farm flatfish species, which can be stacked in order to maximize production per square foot of floor space; and ponds set into the ground. Closed systems can have high startup costs relative to pens and cages. However, with the potential to eliminate the use of antibiotics, maximize feed uptake and reduce pollution of the surrounding environment, they represent an increasingly attractive option.

Image of closed-circulation barramundi farm courtesy of Eric Punkay

Read more:

[CFTK-TV News](#)

[David Suzuki Foundation](#)

Bulletproof Fiber Could Help Reduce Salmon Escapes



Nets made of a new super-strong, synthetic fiber called Dyneema are being tested at salmon farms in Scotland for their ability to reduce the escape rate of farmed fish.

Up to 15 times stronger than steel, Dyneema is already used in the manufacture of bullet-resistant body armor and mooring cables for tankers. If used instead of nylon or other common netting materials, it may be able to reduce the number of escapes caused by seals and other predators attacking and damaging nets. This currently accounts for around 35 percent of escapes of farmed salmon in Scotland.

There are many incentives for reducing escape rates. If farmed individuals escape, they can breed with wild salmon, altering and potentially weakening their genetic make-up. They also compete with native fish for resources. The Pure Salmon Campaign has estimated that around 3 million salmon escape from pens around the world every year, and the Scottish Salmon Producers Association reported around 157,000 escapes from its farms in 2006. Although this number is falling much still remains to be done. Stronger nets could represent one way of achieving this.

Image of a salmon farm at Loch Alsh, Scotland courtesy of Salmon Farm Protest Group/Marine Photobank

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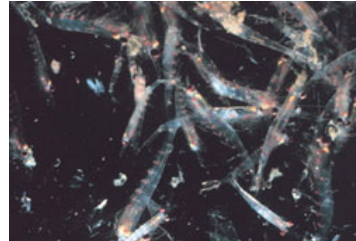
[The Scotsman](#)

[The Herald](#)

[Pure Salmon Campaign](#)

Pressure Increases on Antarctic Krill

Increasing demand for fishmeal, fueled in part by the worldwide growth of aquaculture, could be problematic for Antarctic krill and the animals that depend on them for food. Krill are tiny crustaceans that occur in huge numbers and play a key role in the Antarctic food chain.



Krill are primarily targeted commercially for the omega-3 fatty acids they contain, which are in high demand as a dietary supplement for both people and animals. Furthermore, their pigment gives a pink color to salmon, making them valuable as a salmon feed.

The expansion of aquaculture and high food prices worldwide mean that it could soon be commercially viable to target krill solely as a source of fishmeal. Until now, fishing pressure has been relatively low due to the region's inaccessibility and difficulties in processing the catch fast enough to prevent spoiling. But increasing demand and the development of a new, onboard processing technique means that pressure on this vital resource is likely to increase exponentially. The level of landings is already increasing.

The effects of an increase in fishing pressure are likely to be compounded by climate change as the sea ice habitat, on which krill depend for feeding and breeding, declines dramatically. A recent WWF report suggests that a reduction in sea ice coverage due to rising temperatures will have severe consequences for several species of whale that depend heavily on foraging for krill at the ice edge. A number of organizations are calling for careful management of the krill fishery to ensure that our demand for fishmeal and other products does not impact negatively on whales, birds, seals and other inhabitants of Antarctic waters.

Image of Antarctic krill courtesy of Jamie Hall/NOAA

Read more:

Offshore Aquaculture is One Step Closer



A recent report on offshore marine aquaculture by the U.S. Government Accountability Office (GAO) aims to identify regulatory issues to be addressed in order for offshore aquaculture to proceed in the United States. Open-water operations are currently functioning in state waters off Maine, Hawaii and Puerto Rico, but there are none as yet in U.S. federal waters, which extend from 3 to 200 nautical miles offshore (5.5 to 370 kilometers).

Offshore aquaculture refers to the rearing of fish or other species in containers situated in open water. Many in the aquaculture industry are keen to see expansion into offshore areas in order to increase fish production. However, these pens would not be free from some of the problems currently associated with inshore aquaculture, including escapes and disease transfer to wild fish.

The process of developing a regulatory framework for offshore aquaculture continues, and industry and scientific interest is high. A forum, entitled Offshore Aquaculture in the Pacific Northwest, has been scheduled for September 9 to 10, 2008, at the Hatfield Marine Science Center at Oregon State University.

Image of an offshore pen being deployed in the Gulf of Mexico courtesy of NOAA

Read more:
[U.S. Government Accountability Office](#)
[The FishSite](#)

Marine Stewardship Council Will Not Be Certifying Farmed Products

The Marine Stewardship Council (MSC) has confirmed that it will not be extending its certification program to incorporate aquaculture products. The decision was originally made in 2006 and was reconfirmed following stakeholder consultation at the June 2008 Board of Directors meeting.

Although many in the industry and the conservation community were in favor of the MSC taking on this role, it is now clear that farmed products will not bear the familiar MSC logo.

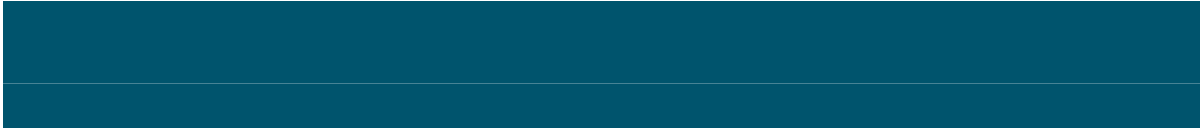
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