

AQUATRAZ®

FEWER ESCAPES, BETTER FISH HEALTH
- HIGHER PROFITS

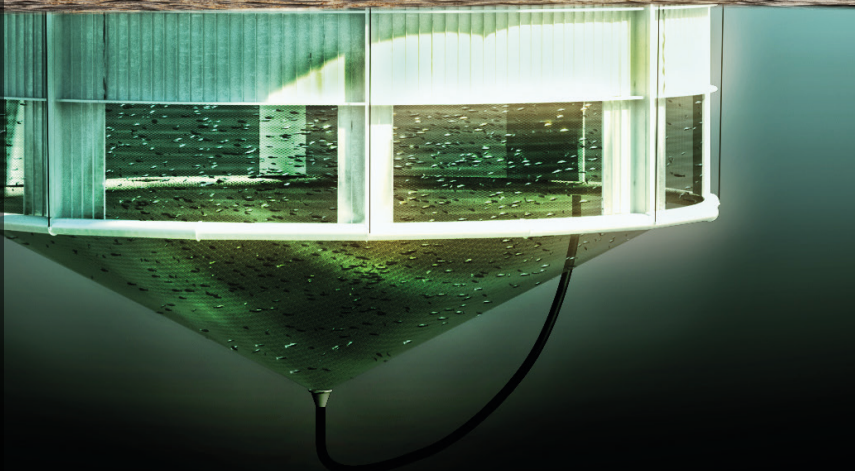


AQUACULTURE OF THE FUTURE

Aquatraz is a rigid, raisable netpen developed to improve fish health, reduce the risk of escape and increase the available area for salmon and trout farming. The project is a collaboration between Midt-Norsk Havbruk AS and Seafarming Systems AS.

TECHNICAL DATA

- Netpen circumference: 160 metres
- Depth to the bottom ring: 18 metres
- The top 8 metres are sealed
- Ventilated sides below 8 metres
- Angle of bottom: 27 degrees
- Deadfish system: Lift-up
- Delivery/movement of fish: Lifting of netpen, suction from bottom
- Mooring system: Frame mooring
- Water supply: Passive and active through the use of pumps
- Feeding systems, monitoring, lighting and other support systems are similar to those found in conventional PE netpens and use existing infrastructure.



AQUACULTURE OF THE FUTURE

Sustainable growth in aquaculture requires initiatives that improve fish health, as well as the environment within and around the farming facility. The operation of current netpen solutions, which often involves heavy, manual tasks, is risky for the technician, the fish and the external environment. Seafarming Systems wants to resolve these issues through the Aquatraz project.

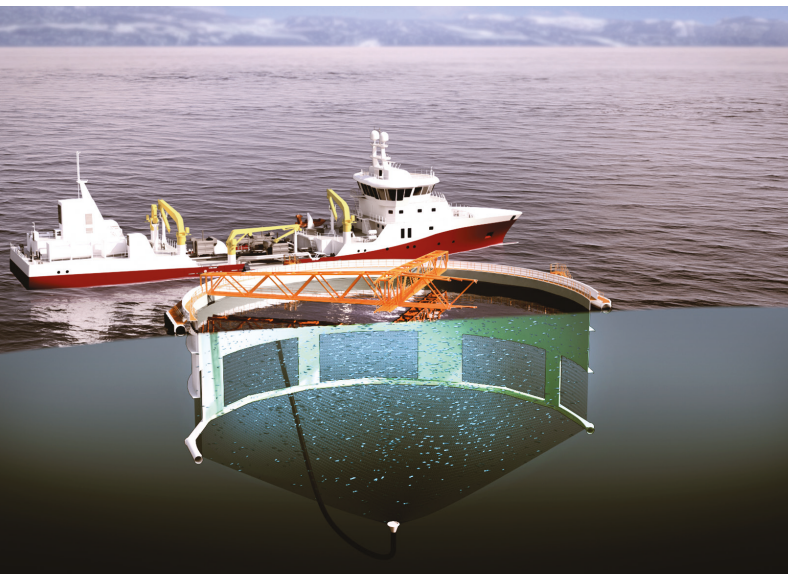
Escapes are usually blamed on human error or objects tearing holes in the net. Aquatraz's rigid steel structure is built according to the same principle as ships and offshore structures, and is therefore capable of withstanding more than current netpens. The design automates many operations, which reduces the risk of human error. Overall, this reduces the risk of escape significantly.

Aquatraz will improve fish health. Fresh water from the depths is pumped into the netpen, and is then circulated. This ensures an optimal environment for the fish in water that is rich in oxygen that maintains a more even temperature, while the circulation of water is thought to produce fish that are more robust and in a better condition.

The facility is sealed in the top part and open at the bottom. This ensures that lice, which are largely found in the upper water masses, do not enter the facility. The open panels in the side ensure natural water flow in the event that the mechanical water supply should fail.

The netpens can be lifted out of the water for maintenance, and are disinfected through drying or freezing in the winter - these represent two environmentally friendly and efficient methods that are not only chemical-free, but also save the fish farmer money.

Aquatraz responds to the key challenges facing the industry today, and will contribute to sustainable growth in the years to come.



THE PROJECT

The development project is a collaboration between Seafarming Systems and Midt-Norsk Havbruk. Since being established in 1972, Midt-Norsk Havbruk AS has grown to become the second biggest salmon breeder in Nord-Trøndelag, employing 60 staff and with a turnover of NOK 600 million in 2015. The company has always been one of the leading players in terms of innovation in the industry. Seafarming Systems AS owns the Aquatraz technology and is responsible for the continued development and commercialisation of the netpen.

The project has been awarded four development permits, and has a time frame of seven years. The first pilot netpens will be put into use in the spring of 2018. The facility will be available to the market once the technology is verified.

OTHER PROJECT PARTICIPANTS

Cefront - Hydro analyses and Structure design
CFD Marine - CFD calculations
Scana Offshore - Lifting system and mechanical systems
Focus Engineering - Detail Design
DNVGL - Design verification and certification
Aquastructures - Certification of facility
SINTEF Ocean - Model testing
Inventas - Pumping systems

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