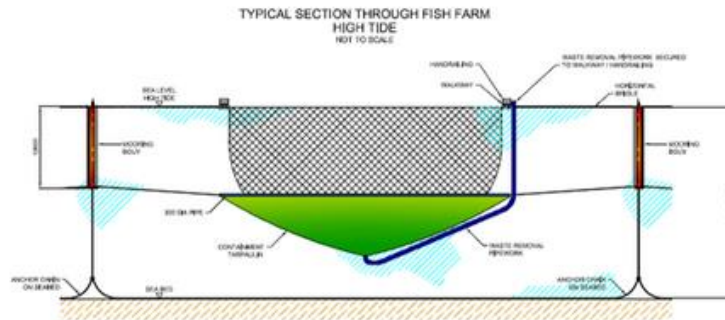


Project Case Study

Client:	Aqua Innovation Ltd
Specific Project:	Waste Capture Systems
Dates:	December 2018 - Present



Description:

AI has designed a unique system that captures, recovers and recycles waste material from below aquaculture pens, preventing sea bed contamination and contributing to creating an environmentally sustainable industry. AI's system is applicable to both circular cages and square cages with a modular variation that can be installed in fresh water lochs where access is limited.

Following recovery of the waste, the material will be analysed and treated on site to produce a product which may be used as fertiliser or bio-fuel. Compared to conventional grid moorings, our design significantly reduces the seabed footprint and by preventing sea bed contamination, will allow a significant increase in the licensed biomass, the extra production it would be hoped will more than offset the cost of installing a WCS, making our solution both environmentally and economically viable.

This waste capture system will not only create an environmentally sustainable industry, but improve industry perception and significantly reduce the industries carbon footprint.

Scope of Works:

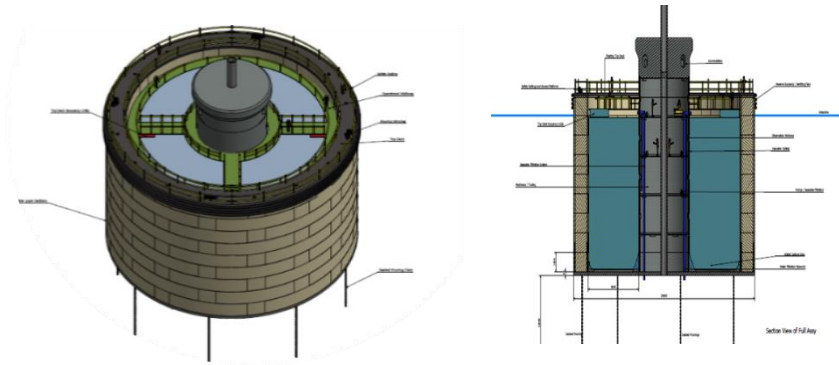
Northern Light are responsible for the development of a detailed business plan for the company, detailed cost estimates for this project, securing key support from the industry and regulatory bodies. NLC have also developed the detailed design, secured £270k grant funding for the first commercial scale prototypes. NLC have also been working closely with farming partners since the first deployment of the system in Summer 2020.

Key Points

NLC have worked closely with AI to develop an innovative system which captures, recovers and recycles the waste material from below the pens. The economic benefits of this innovation will be increased productivity, reduced costs and reduced losses, as the fish are grown in a more controlled environment with less feed waste and less exposure to external environmental factors (such as predators).

Project Case Study

Client:	Aqua Innovation Ltd
Specific Project:	SEACAP 6000
Dates:	December 2018 - Present



Description:

“New transformative in shore seawater solution for salmon and trout farming”

Aqua Innovation have designed a concrete contained pen which uses water circulation, filtration and treatment technologies and incorporates many unique features. AI believes contained systems offer the industry a way forward, built and operated at sea, utilising the natural environment and creating a sustainable future with opportunities to expand. Designed to suit Scottish conditions, either floating or mounted on the seabed, modular construction allows different sizes to be built using construction techniques conducive to scaled production.

Designed to allow construction at redundant oil rig fabrication yards using local labour and indigenous materials, this concept offers the aquaculture industry game changing technical innovation and the opportunity to export environmentally sustainable aquaculture worldwide.

Aqua Innovation have developed a completely new method of building and installing floating concrete contained fish farms to take trout and salmon from 100g to 5Kg weight.

The truly transformative approach is a “step change”; moving traditional fish farming forward by the construction of a “fish centered” tank with as close to zero impact on the environment as is possible to achieve. The design uses filtered and treated intake water, captures and recycles waste, minimises the use of chemical treatments and allows fish to be visually monitored at different levels within the pen.

Scope of Works:

Northern Light are responsible for the development of a detailed business plan for the company, detailed cost estimates for the project, securing key support from the industry and regulatory bodies. NLC have also developed the detailed design including life support and water quality and are now concentrating on securing R&D/innovation grant funding in order to progress the project.

Key Points

NLC have worked closely with the client to develop this key innovation for the industry which could revolutionise the way in which we currently farm. Improving fish health, reducing the impact on the environment due to fish waste, eliminating the risk of contamination with wild salmon and trout populations, higher control over fish escapees, eliminate the risk to stocks from algal blooms, fish health and predators and overall improvement of fish health and well-being.