Did you know...

Of the farmed fish we eat, more than 90 percent are imported.

In Sweden, we grow mostly rainbow trout and Arctic charr as food fish.

In 2017, we ate almost 35 000 tonnes of farmed Norwegian salmon.

Blue mussels account for most of Europe's aquaculture production, around 40%.

A large blue mussel filters almost 10 liters of water per hour.

1 tonne of farmed sugar kelp absorbs 10-30 kg of nitrogen from the sea, and even more if they are located near a fish farm.

China is the world leader of fish farming.

In 2014, China produced 45 million tonnes of fish. In comparison, Norway farmed 1.4 million tonnes of salmon.

37 different species of macroalgae are farmed in 50 countries.

Globally, more than 20 kg of fish and shellfish are consumed per person and year, in Sweden this figure is around 12 kg.

362 species of fish and 104 mussel - and snail species have been farmed or are farmed in the world.

Fish species belonging to the carp family are the most widely farmed fish in the world.

Short about SWEMARC

Generates new knowledge about sustainable production of nutritious food from the ocean.

Works with positive integration of aquaculture with local communities and coastal activities.

Works for resource efficient production with circular nutrient flows of marine raw materials.

Uses an interdisciplinary research approach between social science, economics, law, oceanography, biology and design in interaction with industry, governmental agencies and the public in a transdisciplinary approach.

Is one of six strategic centers at the University of Gothenburg, dealing with the major global challenges. In particular, SWEMARC focuses on:

Goal 2: Zero hunger

Goal 12: Responsible consumption and production

Goal 14: Life below water.

www.swemarc.gu.se

GÖTEBORGS UNIVERSITET

SWEMARC
SWEDISH MARICULTURE RESEARCH CENTER

Marine aquaculture

– towards sustainable food production

What is marine aquaculture?

Marine aquaculture is the farming of all kinds of marine organisms, such as algae, mussels, shellfish and fish. Globally, aquaculture is the fastest growing food sector. Today, about half of all seafood consumed by humans is farmed.

Why marine aquaculture?

Aquaculture has great potential to:

- meet an increased demand for fish and shellfish
- provide sustainable, nutritious food to a growing population
- contribute to innovation, increased self-sufficiency and new jobs

SWEMARC

- National center for marine aquaculture research

SWEMARC is one of Gothenburg University's six strategic centers, which meets the major global challenges. We are working towards the UN's Sustainable Development Goals:

but have particular focus on:

We gather expertise in social economics, law, oceanography, biology and design to do interdisciplinary analyses of aquaculture's social effects.

We aim to:

- Make marine aquaculture a valuable and sustainable industry.
- Understand the factors that prevent the start-up and expansion of marine aquaculture today.
- Investigate how fish and shellfish farming can create added value for the local communities.

- Develop new farming systems that include co-farming of several species.
- Produce new, sustainable ingredients that can be used for fish and shellfish feed, for example, from underutilised marine raw materials.

- Understand how regulation and planning can promote sustainable aquaculture.
- Involve the local communities and use co-creation to drive research forward.

- Be curious about public attitudes towards aquaculture.
- Understand how legislation can better support environmentally friendly aquaculture.
- Develop marine farming systems for circulation of nutrients.
- Invite to dialogues concerning what characterises an attractive aquaculture.

- Investigate synergies between aquaculture and tourism.
- Develop closed, land based systems with minimal water usage.
- Contribute to a positive development of sustainable marine aquaculture.

Illustrations: © www.fauna.is

Vision

Our vision is to develop sustainable marine aquaculture models, which are characterised by:

- reduced dependence on wild-caught fish for feed production
- reduced environmental impact
- circular nutrient flows
- positive integration with local communities and coastal activities
- efficient production with reduced administrative and legal barriers
- increased knowledge and acceptance of farmed fish and shellfish

Goal

The research should lead to an environmentally friendly production of seafood. We also want to increase public understanding of what sustainable aquaculture is and the positive health effects of eating seafood.

Cooperation

We cooperate both nationally and internationally with the aquaculture industry, academia, governmental and non-governmental agencies and the society.