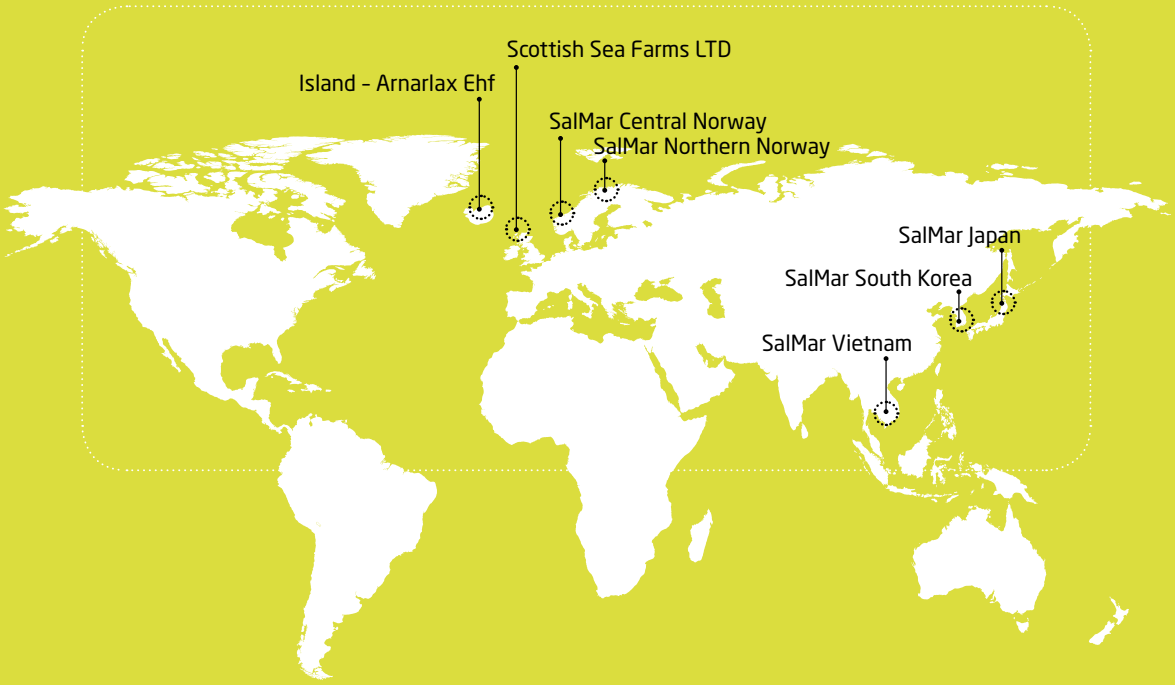
2018

Environment and Social Responsibility Report

SalMar
Passion for Salmon



SALMAR IS ONE OF THE WORLD'S LEADING PRODUCERS OF ATLANTIC SALMON

SalMar have significant farming operations in both Central and Northern Norway, as well as in Scotland through Scottish Sea Farms and in Iceland through Arnarlax Ehf. SalMar also operate a comprehensive harvesting and VAP facility in Central Norway at the company's headquarter at InnovaMar on Frøya and on Vikenco at Aukra. – ***Passion** for **Salmon***

Learn more about SalMar at **www.salmar.no**

For more information about the different legal companies in SalMar ASA, see Annual report 2018.

1. Passion for Salmon

SalMar's corporate culture is constantly evolving, and builds on the values that have brought the company where it is today. These values are expressed in a set of tenets that underpin what we do and the way we behave.

SalMar is one of the world's largest producers of farmed salmon, and the world's largest producer of farmed organic salmon. The company aims to be the lowest-cost producer. This goal can be achieved only through sustainable biological production. SalMar's vision is: "*Passion for Salmon*".

SalMar has adopted the following tenets, which reflect its corporate culture, values and attitudes:

- What we do today we do better than yesterday
- The job is not done until the person you are doing for is satisfied
- Focus on the solution
- The job we do today is vital to the success of all
- We care!
- Sustainability in everything we do

Scope of the report

The report covers those Norwegian companies in which SalMar's shareholding and operational liability exceeded 50 per cent in 2018. This is the fourth report which focuses exclusively on the environment and corporate social responsibility, and presents our activities in 2018. In addition, SalMar publishes a comprehensive annual report.

The report has been prepared on the basis of the principles required by GRI (Global Reporting Initiative). On the last page, you will find a thematic overview of the GRI index and our reporting related to this. Any questions relating to this edition should be addressed to SalMar's IRO Runar Sivertsen or community contact manager Alf Jostein Skjærvik.

SalMar's tenets run like a red thread through this report and create a framework for its disposition. Each chapter is introduced by a brief text linking its contents to one of the company's tenets.

Although SalMar continues to pursue its stated aim of cost leadership, it is moving from a focus on outcomes to a focus on performance. **We aim for excellence at all levels and in all aspects of our operation.**

The new vision will underpin all activities and all actions -within SalMar. All decisions relating to production will be made on the basis of our passion for salmon. The fish will be farmed in conditions most conducive to their wellbeing. We believe that the best biological results will pave the way for the best financial results, and thus safeguard our position as the most cost-effective producer of farmed salmon in the world.



This new vision and ambition depend on the existence of a winning culture throughout the organisation. The source of SalMar's corporate culture and the company's cultural tenets is our shared passion for salmon. These tenets underpin our vision and describe the attitudes and conduct expected of all employees.

2. Message from the CEO

A very good year for SalMar *We posted the best results in the Group's history in 2018, thanks in part to the continuation of strong global demand for salmon and high prices, and in part to the fantastic contribution made by our entire workforce. Another milestone was reached when we harvested the first salmon raised at our offshore fish farm, Ocean Farm 1, with very promising results. This strengthens our belief that farming fish further out in the ocean is the right way to go.*

Sustainability in everything we do

Work on sustainability is part of our daily work and the focus on sustainability is therefore integrated in everything we do. For SalMar, sustainability is about maintaining high ethical and business standards, and contributing to a greater awareness of the environment in which we operate in. We are constantly working to contribute with the least possible footprint while at the same time facilitating the greatest possible value creations. To operationalize the UN's sustainability goals and Norway's climate goals for the fields where SalMar can make a difference is an ongoing work and we believe in "showing our way by doing". In order to contribute to this, we have an operational focus and work with partners in a number of fields to realize our goals.

Continued growth

SalMar harvested 142,500 tonnes of salmon in 2018, an increase of 5 per cent on 2017. The growth came in the Fish Farming Central Norway segment, and was due to strong improved biological performance and contributions from Ocean Farm 1. The results from the segment shows that we have managed to return to the level we wish to be at with respect to production quality, efficiency and costs. At the start of 2018, we announced our goal was to reduce production costs per kg for the second year in a row. And we did. The turnaround we have achieved in Central Norway in recent years, following a challenging period, can be attributed partly to meticulously efforts to protect our sites from salmon lice, keep our nets clean, make efficient use of cleaner fish and take excellent care of our salmon. All of this resulted in a substantial improvement in fish health, welfare and growth. That said, we farm fish in seven production areas in Norway, and we have a lot of hard work ahead of us in order to continue performing at the same level as Central Norway managed in 2018.

Next step in our offshore strategy

In 2018, SalMar completed the first production cycle at the Ocean Farm 1 facility, which is situated in an area of sea called Frohavet off the coast of Frøya. Over the 15 months the fish were in production, we did not need to apply a single delousing treatment. The fish had an excellent rate of growth, and their quality was uniformly good. Such promising results boost our confidence as we embark on the next phase of our strategy of farming fish in locations further out in the ocean, where salmon can be produced on their own terms. In February 2019, SalMar's subsidiary MariCulture was awarded eight development licences for the "Smart Fish Farm" concept. This is the world's first fish farm designed to be used in the open ocean. The specially designed deepwater fish farm is intended to be positioned in harsh environments in the ocean, where both sea temperatures and ocean currents are optimal for the salmon. If SalMar's offshore fish farming strategy succeeds, vast areas of ocean could be opened up for environment-friendly and sustainable aquaculture. In this way, Norway can retain and reinforce its position as the world's leading producer of Atlantic salmon in a long-term perspective.

Investing in new growth

With the prospect of strong earnings ahead and a sound financial position, we are in a position to both deliver solid dividends to our shareholders and invest considerable sums in future-oriented projects to build a platform for future growth. In 2019, SalMar is planning to invest almost NOK 900 million. The biggest investments will come in the Northern Norway segment, including the new harvesting and processing plant InnovaNor in Lenvik and our smoltfacility in Senja. The substantial investments we have made in recent years to boost our competence and capacity to handle biological challenges resulted in improved operational performance and lower costs in Central Norway in 2018. Over time, we expect to see similar positive effects from our investments in Northern Norway. InnovaNor will give us the same flexibility we have at InnovaMar in Central Norway to harvest fish on the terms of the salmon.

Resource rent tax

For Norwegian fish farmers, it is worrying that the introduction of new taxes and levies – including a resource rent tax – have become a political issue shortly after the Norwegian parliament (Stortinget) decided to set up the so-called Aquaculture Fund and, at the same time, promised stable and predictable framework conditions for the sector. Despite several years with high salmon prices and favourable foreign exchange rates, Norway's aquaculture industry has, through its short history, proved to be vulnerable to changes in the economic cycle and subject to fierce competition. The sector must invest heavily to meet the environmental and biological challenges it faces. Furthermore, vast sums are being invested in land based fish farms in other countries, close to important markets for Norwegian salmon. Each year, Norway's aquaculture sector pays billions of NOK in state and local government taxes and levies. The production of salmon forms the core of an important business cluster, employing around 34,000 people – many of them in remote locations along the Norwegian coast that are at risk of population decline. By its actions, the government will demonstrate if its ambition to make Norway the world's leading seafood nation is seriously meant. New taxes and levies will help to weaken the Norwegian aquaculture sector's competitiveness and willingness to invest,

allowing competitors in other countries to gain ground. The Norwegian authorities must as soon as possible, therefore, eliminate the uncertainty that has been created with regard to important framework conditions for the sector's development in Norway.

Safety first and foremost

Everyone at SalMar shall come home from work each day safe and sound. To strengthen this focus SalMar shall further raise awareness of our safety routines and intensify the reporting of near-miss incidents. We must reduce our sickness absence rate and the number of work-related injuries. We are convinced that effective health, safety and environment (HSE) routines, tailored to our production and processing activities will have a positive impact on our bottom line and make us more efficient. As a vital part of this effort, we will put the entire organisation through the SalMar School in 2019. This will enable us to create a shared understanding of our core values and underlying corporate culture, and how we are required to behave at work.

Iceland

In mid-February 2019, it was announced that SalMar had invested NOK 180 million to acquire a further 12.3 per cent of the shares in the Icelandic salmon farming company Arnarlax. Following this transaction, SalMar now controls 54.2 per cent. In this connection, we have also made a mandatory offer for the remaining shares in the company. We have great faith in the future of Arnarlax and the Icelandic aquaculture industry as a whole. At the same time, we are aware that much work remains to be done before the company can perform at the same level as our operations in Norway and Scotland. Arnarlax has licences to produce almost three times more than last year's output of seven thousand tonnes. But realising this growth potential will require substantial investments in smolt facilities and access to additional suitable sites to improve its biosecurity. Through a dialogue with the authorities and wild-salmon interests, combined with comprehensive environmental analyses, the Icelandic aquaculture industry should aim to create a robust and sustainable site structure. For fish farmers, it is important with predictable policies from the authorities. Arnarlax and other fish farmers on Iceland have a great deal to do to win society's confidence and understanding for the opportunities the industry can offer for future value creation, jobs and sustainable food production.

Thank you for your invaluable efforts!

Finally, I would like to thank each and every one of SalMar's employees for all their hard work in 2018. We can look back on a year with strong performances throughout the organisation. Farming has done an impressive job of keeping lice levels down and reducing production costs, and sales and Industry has demonstrated an exceptional efficiency and flexibility in handling the volumes when they arrive. 40,500 tonnes of salmon in the fourth quarter is a company record for SalMar. And InnovaMar set a new world record for a single month in July, with 17,000 tonnes of salmon harvested. In addition, we have a hugely dedicated team working in administration and support, who make sure that everyone else can concentrate on doing the work that are at the forefront for SalMar; maximise value creation on the salmon we produce, with minimal footprint.

Olav-Andreas Ervik
CEO

3. Sustainability in everything we do

Although Salmon farming is one of the most sustainable and environment-friendly ways of producing food, the process poses a number of environmental challenges. The Group focuses on resolving those challenges through continuous development of its operations and investment in new technology.

SalMar will safeguard its long-term profitability and growth through sustainable fish farming and industrial operations, and by acting as a responsible corporate citizen. For SalMar, sustainability is about maintaining high ethical and business standards, and contributing to a greater awareness of the environment in which we operate day to day. We protect the environment and ensure that it is managed in a way that benefits future generations.

Core businesses and segments

SalMar's core business is the farming, processing and sale of Atlantic salmon. The Group's activities extend along the entire value chain from broodfish and the production of roe, to the freshwater and marine phases, harvesting, processing, sale and distribution. SalMar has been growing since its foundation in 1991. In 2018, it produced 142,500 tonnes of salmon in Norway, the equivalent of around 1.9 million nutritious and delicious dinner portions per day.

The salmon are raised in clean water and under controlled conditions at fish farms in Møre & Romsdal, Trøndelag, Troms and Finnmark. The Group has harvesting and processing facilities in Frøya (InnovaMar) and Aukra (Vikenco AS). In all, the Group has a presence in 35 municipalities in Norway.

SALMON FARMING A B C

BROODSTOCK

The broodstock are the parent fish which provide the eggs and sperm (milt) required to produce new generations. The fertilised eggs take 60 days to hatch when placed in an incubator kept at eight degrees Celsius.

TRACEABLE >>> SUPPLY CHAIN

Eyed salmon eggs
After 25–30 days in the incubator the eggs have developed to the stage where the eyes of the salmon are clearly visible as two black dots inside the egg.

Fry
The egg hatches when the eggshell cracks open, liberating the baby fish (fry) inside. When it hatches the fry is attached to a yolk sac, which provides it with the sustenance it needs during its first few weeks of life. From now on the fish's growth and development will all depend on temperature.

Initial feeding
When most of the yolk sac has been absorbed, the fry can be moved from the incubator into a fish tank. They are now ready for initial feeding. The water temperature is kept at 10–14 -degrees Celsius, and the fry are exposed to dim lighting 24 hours a day. The initial feeding period lasts for six weeks. As they grow the fry are sorted and moved to larger tanks. Well ahead of their "smoltification" all the fish are vaccinated before being shipped by wellboat to the fish farm's marine net-pense.

Smoltification
The process whereby the juvenile fish transition from a life in freshwater to a sea-going existence is called smoltification. During this process the fish develop a silver sheen to their bellies, while their backs turn a blue-green colour. Their gills also change when the juvenile fish turns into a smolt.

On-growing
The farming of fish for human consumption takes place in net-pens, large enclosed nets suspended in the sea by flotation devices. In addition to a solid anchorage, net-pens require regular cleaning and adequate measures to prevent the farmed fish from escaping. Growth in the net-pens is affected by feeding, light and water quality. Here too the fish are sorted as they develop and grow.

Harvesting & processing
A year after transfer to the marine net-pens, the first fish are ready for harvesting. The fish are transported live by wellboat to the processing plant. There the fish are kept in holding pens, before being carefully transferred to the plant itself. The fish are killed and bled out using high tech equipment, and always in accordance with applicable public regulations. After harvesting the salmon is subject to various degrees of processing.

Sales
The fish is sold either as whole gutted salmon (fresh or frozen), fillets, in individual portions or a wide range of other products, which are distributed to markets around the world.

A new era in aquaculture

In 2016, the Norwegian Ministry of Fisheries and Coastal Affairs granted the first eight aquaculture development licences to Ocean Farming AS. Early in 2019, MariCulture AS was granted eight licences for the development of an open-ocean aquaculture facility. Both companies are part of the SalMar Group. SalMar is collaborating with other centres of expertise in the aquaculture and offshore industries to realise both these full-scale pilot projects. The development licences have been granted for a period of seven years. However, they may be converted into ordinary production licences if the Norwegian Directorate of Fisheries' target criteria are met.

Ocean Farm 1's first production cycle completed

Ocean Farm 1 is a pilot project focusing particularly on biological conditions and fish welfare. It is a large and challenging project, which has involved the testing and development of new and innovative equipment technology that will be of benefit to the whole industry.

The installation has been situated in an area of sea called Frohavet, off the coast of Frøya. Harvesting of the installation's first cohort of fish started at the end of September 2018 and ended in early 2019. After 15 months at sea, we can confirm that the fish achieved an extremely good growth rate and that its quality was uniformly good. Few salmon lice were observed, and it was not necessary to apply a single delousing treatment.

The promising biological results from the first production cycle reinforce our confidence that farming salmon further out to sea is the right way to go. We are now preparing for the next transfer of smolt to Ocean Farm 1 in the summer of 2019. In this connection, we will implement a number of measures based on lessons learned from the initial transfer.

Next step – production in the open ocean

The award of eight development licences for the Smart Fish Farm project marks a substantial step towards the establishment of aquaculture in the open ocean. Substantial design work remains to be done before the vast new installation can be built and put into production. The objective is to locate the fish farm in open water, 20–30 nautical miles off the coast of Trøndelag, an area well known for its harsh weather conditions. Nothing similar has ever been attempted before. An important aspect will be to test the way technology and biology interact in such exposed surroundings.

In its licence-award letter, the Norwegian Directorate of Fisheries describes in detail how the concept differs materially from SalMar's existing offshore installation, Ocean Farm 1. It will withstand considerably more exposed conditions and have twice the capacity. However, the biggest difference is that it will have a sealed central column for the treatment of fish, the control and management of the unit, as well as an advanced system for the transportation of fish linked to the eight surrounding production chambers.

World's first offshore fish farm Ocean Farm 1 from its position in Frohavet off the coast of Frøya.

This new equipment technology could help to realise the Norwegian government and parliament's ambition to make Norway the world's leading seafood nation. The unit will combine important environmental aspects of open-net fish farms with closed-containment technology. The Smart Fish Farm will be largely immune from environmental impact caused by other fish farms because it can be situated in any exposed area along the whole Norwegian coast where the outer ocean currents flow. At the same time, its design allows fish to receive necessary treatments in a closed environment, from which there are no emissions.

Contributing to sustainable growth

SalMar considers that a precondition for sustainable growth in the aquaculture sector is the ability to operate in new locations, where sea temperatures and ocean currents provide optimal biological conditions for the farming of fish. The purpose of these projects is to develop the technology that will make this possible. They will also be of great significance for the Norwegian aquaculture industry's long-term competitiveness and will strengthen Norway's position as a global leader in offshore fish farming.

Equipped for R&D

Both these projects are equipped to undertake a variety of R&D tasks relating to biological conditions and fish welfare. As such, they will help promote further development in the aquaculture sector and the applied R&D relating to it. It is important that the operational experience provided by the pilot facilities leads to the industrial-scale construction of this type of ocean-going fish farm.

Financial calendar 2019

4th Quarter 2018 results	14th February 2019
Annual report 2018	26th April 2019
1st Quarter 2019 results	22nd May 2019
Annual General Meeting	5th June 2019
2nd Quarter 2019 results	23rd August 2019
3rd Quarter 2019 results	14th November 2019

SalMar holds quarterly presentations open to the public. The presentations will take place at 08.00 am CET. Results for 1st quarter 2019 will be presented at The Salmon in Strandpromenaden 11 at Tjuvholmen in Oslo other quarterly presentations will be held at Hotel Continental in Stortingsgaten 24/26 in Oslo, Norway. The annual general meeting will be held at Frøya.

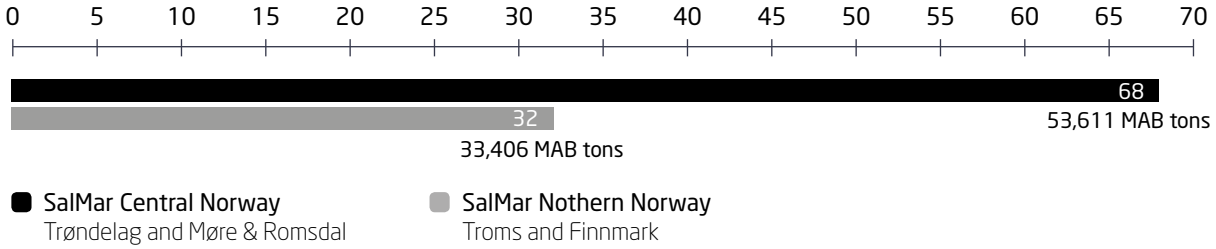
SalMar ASA

The salmon produced by SalMar is sold either through its own sales organisation or through close business associates. Systematic efforts in the area of traceability and control ensure that SalMar's fish is of high quality in terms of both nutritional value and food safety. SalMar supplies a wide range of fresh and frozen salmon products.

In 2018, the business was organised into two companies handling biological production and one company handling processing and sales. SalMar ASA is headquartered in Frøya, Trøndelag, Norway.

Sales are concentrated in the markets of Europe, Asia and America. SalMar's most important regional market in 2018 was Europe, with Poland, Lithuania and Sweden as the largest national markets. The second largest regional market was Asia, where South Korea, Japan and Vietnam, were major national markets. The USA has also developed into an extremely important market over the past two years. In total, SalMar distributed its salmon to around 50 different countries. The company places great emphasis on proximity to its markets, and has therefore established permanently staffed sales offices in Japan, South Korea, Taiwan and Vietnam.

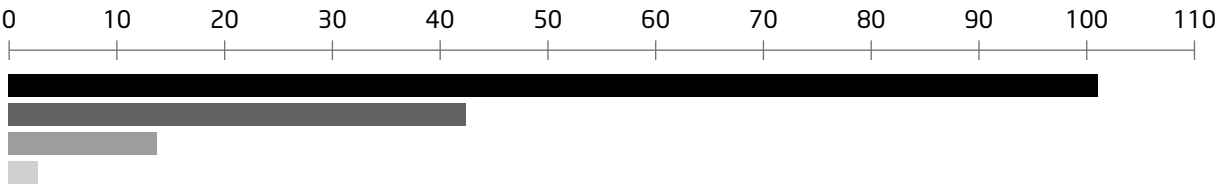
Geographical distribution of SalMar's 100 wholly owned licenses in Norway pr. 31.12.2018:



SalMar Central Norway
Trøndelag and Møre & Romsdal

SalMar Nothern Norway
Troms and Finnmark

> Harvest volume 2018 by geography, gutted weight pr. 31.12.2018 – * *1,000 tons gutted weight*



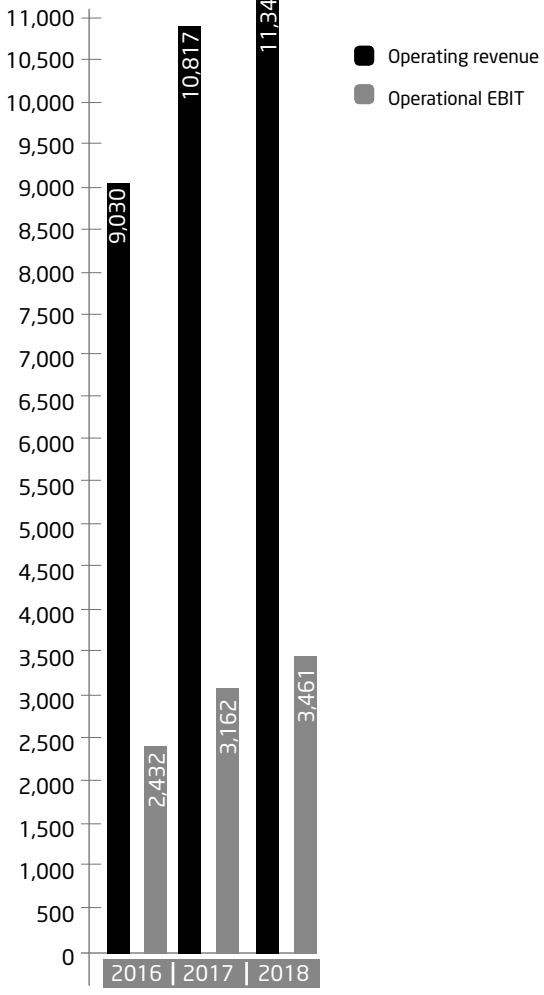
SalMar Central Norway
100,100 tons

SalMar Nothern Norway
42,400 tons

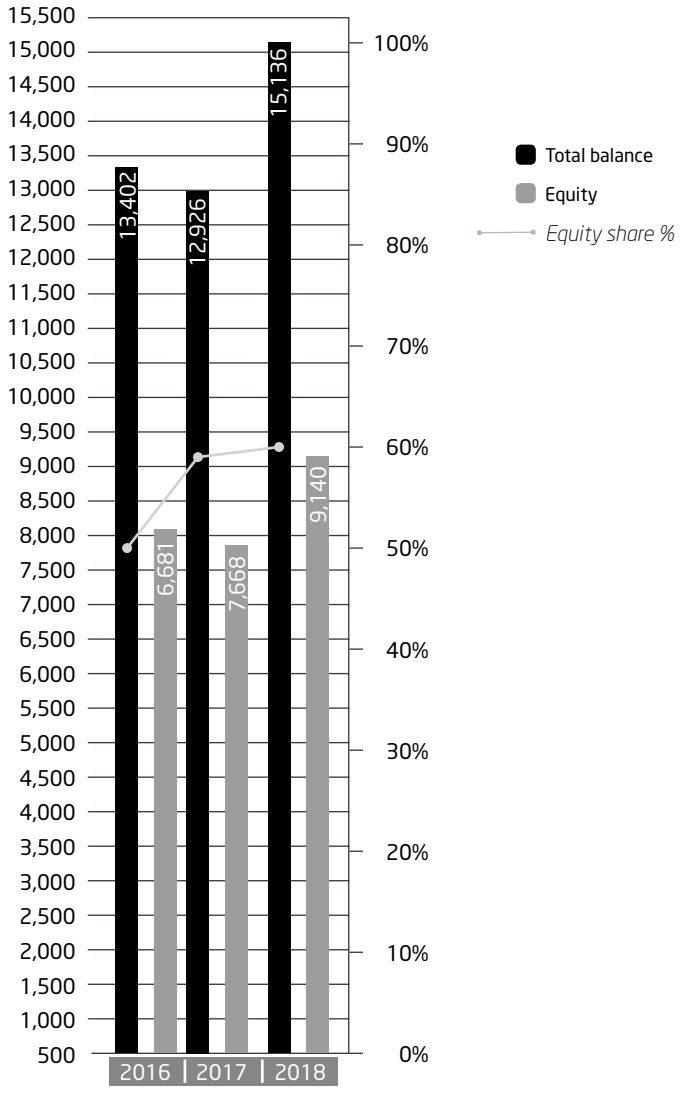
Scottish Sea Farms Ltd [1]
13,700 tons
[1] SalMars 50% share

Arnarlax Ehf [1]
2,800 tons
[1] SalMars 42% share

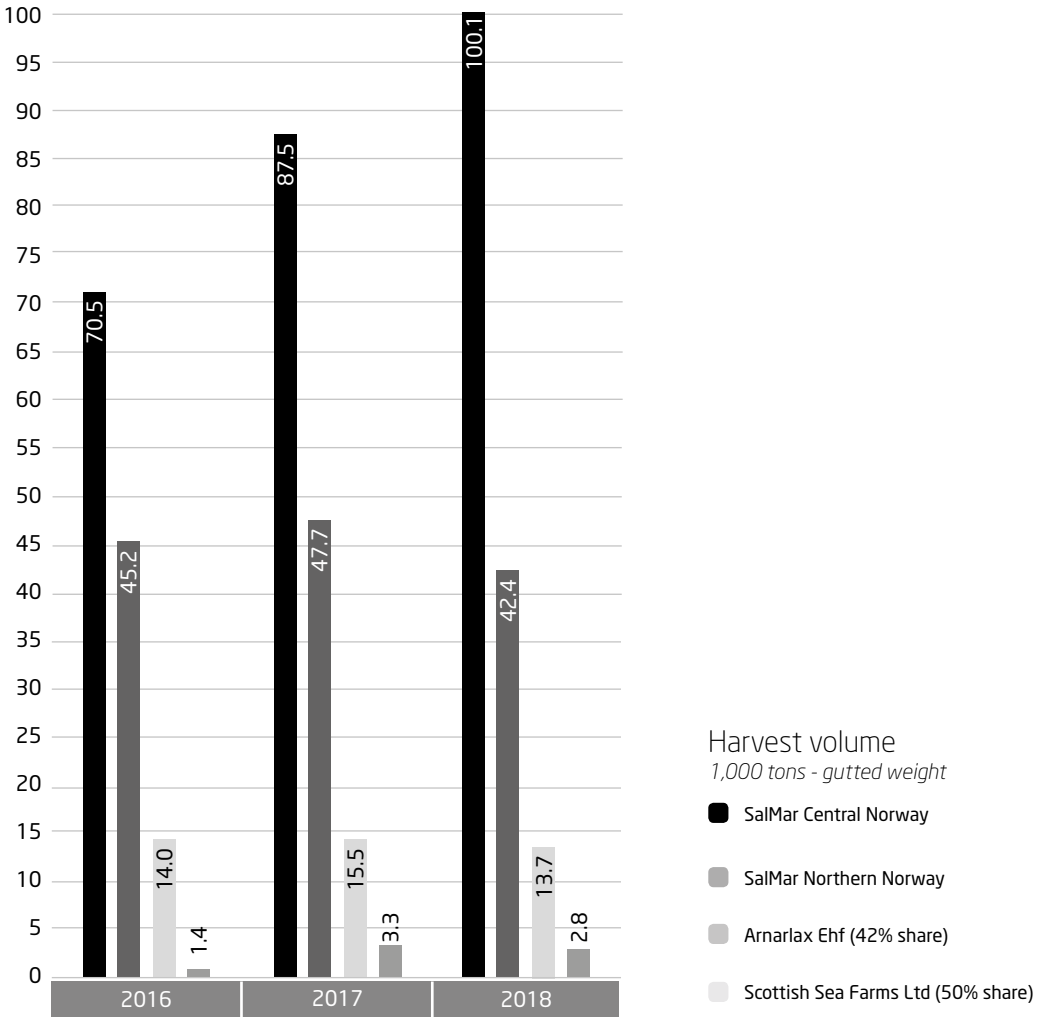
> Operating revenue and Operational EBIT
NOK mill.



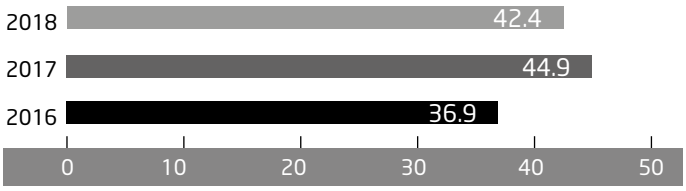
> Balance sheet and Equity *NOK mill.*



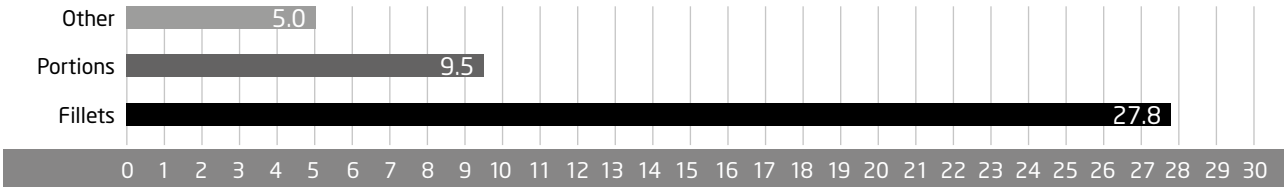
> HARVEST VOLUME AND VALUE ADDED PRODUCTS



> VOLUME VALUE ADDED PRODUCTS – *1,000 tons – product weight*



> VALUE ADDED PRODUCTS 2018 – *Other - Portions - Fillets 1,000 tons – product weight*



Sustainability and SOCIAL RESPONSIBILITY

Leadership of the sustainability effort

The Group's CEO is ultimately responsible for SalMar's environmental footprint and for its efforts to increase its sustainability. SalMar has dedicated quality departments, which monitor and assess the work being done within this area. However, the activity is coordinated by management teams within the segments Fish Farming, and Processing and Sales. Systematic risk assessments are carried out at the overarching level and in all departments to ensure that SalMar as a group is able to implement necessary precautionary measures.

This also includes climate-related risk. Management of each department is responsible for ensuring that monitoring activities are performed and reported, and the quality managers at the various companies follow up and support departmental and operative leaders in this area. Quality managers and other quality assurance staff take an active part in regular management meetings at all levels in the company. Quality, safety, fish welfare and the environment are regular issues discussed at these meetings.

SalMar works systematically to implement initiatives to support the UN's goals for sustainable development. SalMar takes the view that efforts to enhance sustainability are a natural part of everything we do, and are integral to continuous improvement. SalMar has initiatives and activities relating to most of the 17 Sustainable Development Goals. Nevertheless, some goals stand out from the rest as areas in which the company can make the biggest contribution.

UNs 17 Sustainable Development Goals

2 Zero hunger and 3 Good health and well-being

SalMar shall contribute with sustainable food. Salmon is a healthy source of protein, an important source of omega-3 and a good source of vitamins and minerals. By exploiting the potential of the sea, we also contribute to security of food supply.

12 Responsible consumption and production

Sustainable and efficient exploitation of our natural resources is a precondition for our operations. We will contribute to responsible production by reducing our consumption of resources and minimising food waste.

13 Climate action

Food production accounts for a large part of the world's greenhouse gas emissions. Salmon has a low carbon and water footprint compared with other sources of protein. We will contribute to further reductions in our supply chain's carbon footprint. SalMar will take its share of the responsibility by ensuring that climate considerations become an integral part of our strategy and planning processes.

14 Life below water

We will utilize the sea areas we operate in a sustainable manner. We will contribute to the reduction of marine garbage and discharges, both by reducing and handling our own waste properly, but also through our engagement in all the local coastal communities of which we are a part of.

Environment and climate policy

SalMar's facilities are situated in rural areas along Norway's coast, with clean water and good natural conditions for the salmon. Large and small coastal communities are important bases for SalMar's workforce and operations. The Group is conscious of the benefits it derives from the communities and environment along the coast. This recognition underpins SalMar's systematic efforts to fulfil its responsibilities as an employer, producer, supplier of healthy food, user of the natural environment and administrator of financial and intellectual capital.

SalMar takes a holistic view of its fish farming operations, and the organisation strives to be energy efficient and implement climate-friendly solutions.

Assessment of climate risk is an integrated part of company risk management.

CDP reporting

SalMar is working systematically to minimise its carbon footprint. Each year, it produces an environmental balance sheet, showing the changes in its operations' impact on the environment. Carbon Disclosure Platform (CDP) has become the leading international system for climate and environmental reporting, encompassing strategy, climate and energy performance, initiatives and improvements. SalMar reported to CDP in 2018 and will do so again for 2019.

Focus areas and targets

For SalMar, it is important to focus on the operational areas with the greatest potential for environmental impact. The potential for increased sustainability is greatest within the following parts of the value chain:

1. Safety in the workplace
2. Preventing the escape of fish / limiting the number of escaped fish
3. Good fish welfare
4. Sustainable feed
5. Minimal emissions and good environmental conditions beneath and around the facilities
6. Food safety
7. Increased level of processing

The table below shows all the aspects we have identified as having the highest level of materiality and have reported on in the period 2016–2018.

Material aspect	Indicators
• Safe food • Good fish welfare • Sustainable feed	• Compliance with product, health and safety regulations • Survival • Use of medication (antibiotics) • Lice numbers • Raw materials (FFDR, proportion of marine raw materials, etc)
• Impact on the external environment	• No. of escaped fish • Site-specific environment (MOM-B status) • Raw material ingredients • Interaction with wildlife • Exceeding lice thresholds
• Workplace safety • Interaction with the local community • Human rights	• Fatalities, personal injuries, sickness absence • Compliance with social welfare regulations • Engagment in the local community • Financial value generated
• Increased level of processing • Certification schemes • Regulatory compliance	• Volume of goods processed • Overview of certifications • Incidence of corrupt practices • Compliance with environmental regulations
• Climate-related emissions	• Greenhouse gas emissions • Energy consumption • Energy conservation measures • Water consumption

To contribute to the development of a healthy corporate culture and maintain the company's integrity, the board has drawn up a code of conduct. All employees have been made aware of SalMar's ethical and social responsibility guidelines, which are the subject of discussion at annual seminars at the SalMar School. The code of conduct details SalMar's attitude to business ethics and corruption, the working environment and community relations. Routines for the notification of wrongdoing are highlighted during internal training sessions. A high ethical standard in all aspects of the business is non-negotiable, and forms the very foundation for SalMar's entire HSE strategy. SalMar's tenets describe the behaviours and actions required of all employees. At any given time, the SalMar culture is embodied and shaped by its employees. Their good attitudes and actions have always made a significant contribution to SalMar's success. The company's code of conduct and tenets can be found on SalMar's website: www.salmar.no.

The SalMar Standard

Stable environmental conditions are crucial to the health and welfare of the salmon being farmed. To protect the environment and facilitate long-term operations, extensive monitoring and R&D activities are undertaken. Every part of the operation is risk assessed in terms of sustainability, and appropriate measures are set out in procedures and instructions. To monitor compliance with the guidelines that have been drawn up for sound operations, measurements are taken and internal audits performed. SalMar has developed its own standard for best practice. The SalMar Standard sets the bar high, and the number of sites which meet it is published in monthly KPIs.

Dialogue with stakeholders

SalMar has a number of different stakeholders, and is keen to maintain a good dialogue with all of them, for example, through face-to-face meetings, the media, annual reports, stock market notices, sustainability reports, adverts, R&D projects and our website www.salmar.no. Dialogue with stakeholders takes place both locally and at the corporate level. Understanding that we can only succeed if we work together and treat each other with candour and respect is an explicit part of SalMar's principles for all dialogue.

The stakeholders to be included in SalMar's future sustainability reporting efforts are determined by the extent of their influence over the organisation. We aim to engage our stakeholders in an effective manner, while ensuring that they experience their contact with SalMar as providing added value. Important steps in the process include winning acceptance for the issues selected, illuminating different perspectives with regard to impact, identifying challenges, accumulating external impressions and sharing knowledge.

The identification of stakeholders with whom SalMar will engage in dialogue results from several processes:

- Public authorities which administer the public interest in the area and grant licences to operate.
- Selection and approval of suppliers and engagement in R&D is determined by management teams in the various parts of the company.
- Identification of the NGOs with which SalMar will have direct contact is determined by Group Management.

The table below shows the various stakeholder groups that are included in SalMar's analyses.

SalMar's stakeholders			
Internal influence	**Business associates**	**Customer groups**	**External influence**
Employees	Suppliers of goods	Customers in Norway	Central government / regulatory authorities
Shareholders/investors	Suppliers of services	Customers abroad	Certification bodies
Group management	R&D partners	Customers organic products	Industry associations
		Customers with own standards	Groups of local residents
			NGOs
			Research establishments
			Local authorities (councils)

4. We care!

Caring about our co-workers, business partners and local communities is one of SalMar's core values. SalMar employees shall show they care, and their actions shall be rooted in a sense of responsibility, consideration and a desire to do their best. That we care has a positive impact on our biological and financial key figures, our HSE performance and our relations with the rest of society.

In this chapter we present the sustainability targets that cover the workforce and society. In addition, we present results associated with business ethics.

The workforce

In 2018, SalMar employed a total of 1,479 full-time equivalents, of whom 1,201 were permanent employees. This is 52 full-time equivalents more than in 2017. Women made up 24.9 per cent of the permanent workforce. The percentage of women is considerably higher at the Group's harvesting and processing facilities than at its hatcheries and fish farms. SalMar's workforce is made up of people from around 25 different countries. To ensure good communication, all employees must have adequate English language skills.

In its code of conduct, the Group's policy with respect to the promotion of diversity and equality is clearly stated. SalMar accepts no discrimination of employees, shareholders, board members, customers or suppliers on the basis of ethnicity, nationality, age, gender or religion. Respect for the individual is the cornerstone of the company's policy. Everyone shall be treated with dignity and respect, and shall not be unfairly prevented from carrying out their duties and responsibilities. This attitude springs from acknowledgement that a relatively even gender balance and ethnic diversity contributes to a better working environment, greater adaptability and better results in the long term.

Two employee representatives sit on SalMar's board of directors. Further information about the board's membership may be found in the annual report.

Safety at work

Working at SalMar shall be safe. The company works systematically with risk management and training to protect its workforce. Nevertheless, the company experienced some serious incidents involving staff in 2018. A total of 27 lost time injuries (LTIs) were recorded in 2018. This is a slight increase from the year before. The same trend can be seen in the H-figures (H1 = LTIs per million hours worked).

Continued focus on our internal industrial safety capability is important to further reduce the number of personal injuries in 2018. All parts of the Group have an industrial safety representative, and two industrial safety inspections are carried out in each department every year. A total of 123 safety inspections were carried out throughout the Group in 2018. These have uncovered important areas for improvement to further reinforce workplace safety.

In 2017 we developed a company-specific 40-hour training course for our industrial safety representatives. All newly appointed industrial safety representatives are required to take the course. Targeted courses boost the quality of the training provided and ensure everyone receives the same training wherever the person is located. In addition, annual conferences are held, at which industrial safety representatives can update their expertise and share best practice across the Group.

All serious accidents are investigated to prevent similar incidents occurring in the future. In collaboration with DNV, our central technical staff department have developed company-specific tools to enable it to investigate such incidents. Nevertheless, prevention remains the most important factor. At SalMar, we place great emphasis on ensuring that hazardous operations are well planned. Operational plans are drawn up before any work commences, and associated safe work analyses (SWA) are performed for those taking part. The focus on mapping of our overall risk picture is the most effective measure we can implement to reduce the probability of personal injuries occurring. In 2018, we continued to work on risk assessments, and tools for risk planning, evaluation and assessment are now used systematically by the vast majority of the organisation. This work will continue in 2019 and will be completed for all levels and areas. Day to day, internal procedures, instructions and checklists are all drawn up on the basis the risk analyses performed.

HSE performance is followed up systematically through targets and action plans. On the basis of overarching targets,

	Target 2019	2018	2017	2016
No. of employees (full-time equivalents)	-	1,479	1,427	1,357
Fatalities	0	0	0	0
Lost-time injuries (LTI)	< 30	27	24	26
H1 – No. of LTIs per million hours worked	<11	11.9	11.0	12.6
Sickness absence (%)	< 4.5%	5.5%	4.7%	5.2%

each individual division and department has defined its own local subtargets. Management has an obligation to monitor performance and evaluate progress, as well as the need for new measures and focus areas. Safety is followed up through systematic weekly and monthly reviews by SalMar's management teams. Lessons learned and improvements are shared across all departments by means of quality-assured reports. All employees are covered by a company health service in the vicinity of their workplace. The Group ensures that everyone receives the training necessary to perform their tasks.

The Working Environment Committee also plays a key role in our HSE activities. The committee comprises selected representatives of management and nominated employees. The three elected industrial safety representatives from farming, processing and administration participate and represent all employees. The committee reports to the Group's governing bodies and the employees' trades union organisations.

Sickness absence

Sickness absence continued to be an area of focus in 2018. Nevertheless, the goal of achieving a sickness absence rate of less than 4.5 per cent was not realised. The overall sickness absence rate came to 5.5 per cent in 2018, compared with 4.7 per cent in 2017. Short-term sickness absence rose slightly from 2.0 per cent in 2017 to 2.1 per cent in 2018. A high percentage of SalMar's workforce are engaged in industrial processing operations, and this segment pulls up the sickness absence figures. It was the processing segment that accounted for the largest increase in the sickness absence figures.

Training and arenas for development

New recruits to SalMar receive HSE training through induction courses, operational seminars and the SalMar School. Annual refresher courses are also held on important HSE topics. All employees shall have received training in how to report wrongdoing or causes for concern within the company, and shall know that they are safe from reprisal if they do so. The procedure for reporting concerns is described in the management system, which is available to all employees.

The SalMar School is our arena for developing individual competence and our corporate culture. In addition to operational issues, the SalMar School also addresses matters relating to corporate culture and leadership, and involves both managers and employees in the process of creating the world's best aquaculture company. Underpinning all our activities in this area, are our shared management principles and tenets – which enable us to develop even more SalMarites.

The level of risk associated with the work being performed every single day at SalMar means that training and having the right competence is vital. Training is provided internally and in the form of external courses. Day-to-day follow-up and on-the-job learning are, nevertheless, the most important sources for individual growth.

In 2018, we embarked on the further development of our quality management system (EQS). The system contains numerous modules, and work focuses especially on the areas competence management, non-conformances, risk, reporting and checks. The interface is also being updated. This work will continue well into 2019.

Employee empowerment

If SalMar is going to develop and constantly forge ahead, it is vital that all employees contribute their views and suggestions for new ways of doing things. To facilitate this, the various departments hold regular planning and review meetings. Large parts of the Group make use of a scheduled meeting scheme, which focuses on individual action plans and close follow-up of the individual employee.

Society

SalMar endorses wholeheartedly the principles set out in the Universal Declaration of Human Rights. Those aspects which relate to our operations, eg protection against discrimination and the right to form a trade union, are included in the Group's code of conduct and several other governing documents.

SalMar has a presence in local communities up and down the Norwegian coast, and is attentive to developments in villages and local districts. At the close of 2018, we had operations in 35 different municipalities. It is important for our employees that the local communities in which they live have the necessary infrastructures and opportunities for leisure activities. For SalMar, it is crucial that the Group is able to operate at locations offering good growing conditions for our fish stocks. SalMar is actively engaged in several local projects. It is also important for SalMar to participate in local arenas for the exchange of views and information, and to take part in planning processes. Salmon farming is still considered a 'young' industry, and it is important to ensure that local decision-makers and other local residents are informed about our operations and plans for development. Through active participation in business associations and the public debate, SalMar contributes to important sustainable development processes in Norway.

SalMar is conscious of its role in contributing to the training of skilled workers. SalMar companies therefore had a total of 40 apprentices on the payroll at the end of 2018. We collaborate with the "blue" vocational and academic courses at both upper secondary schools and university colleges, including those provided under the auspices of the organisations Ungt Entreprenørskap and Blått Kompetansesenter, among others.

SalMar Salmon Centre

In the autumn of 2017, a new aquaculture experience centre, the SalMar Salmon Centre, opened in Finnsnes/Lysnes. In 2018, we have increased the public's knowledge about the aquaculture industry. Through a series of exciting experiences on land and at sea, local people, tourists, schoolchildren and members of the business community have gained greater insight into a modern and sustainable industry. The SalMar Salmon Centre offers an interactive exhibition about fish farming in Norway, and visitors can see the high-tech solutions used to remotely feed the fish. In addition, the centre features a state of the art kitchen where visitors can learn how easy it is to prepare delicious salmon meals. Visitors also have the opportunity take a trip out to an actual sea farm, to see with their own eyes how the salmon live.

Sponsorships and donations

To give something tangible back to the local communities in which the Group operates, SalMar supports a number of local clubs and voluntary associations through the SalMar Fund. On the whole, the fund gives priority to sporting and cultural initiatives, particularly those targeting children and young people.

Rosenborg partner

In 2013, SalMar became a sponsor of the football club Rosenborg Ballklubb (RBK). This partnership continued in 2018. In addition to profiling SalMar, the partnership includes a separate programme for children and teenagers, and the development of grassroots football clubs in Trøndelag. RBK has highlighted the partnership through the SalMar Sports Ground and the SalMar Academy. The objective is to help transfer competence from Rosenborg to grassroots clubs in Trøndelag County in the form of good training sessions to promote player and trainer development.

Business ethics, regulatory compliance and the reporting of wrongdoing

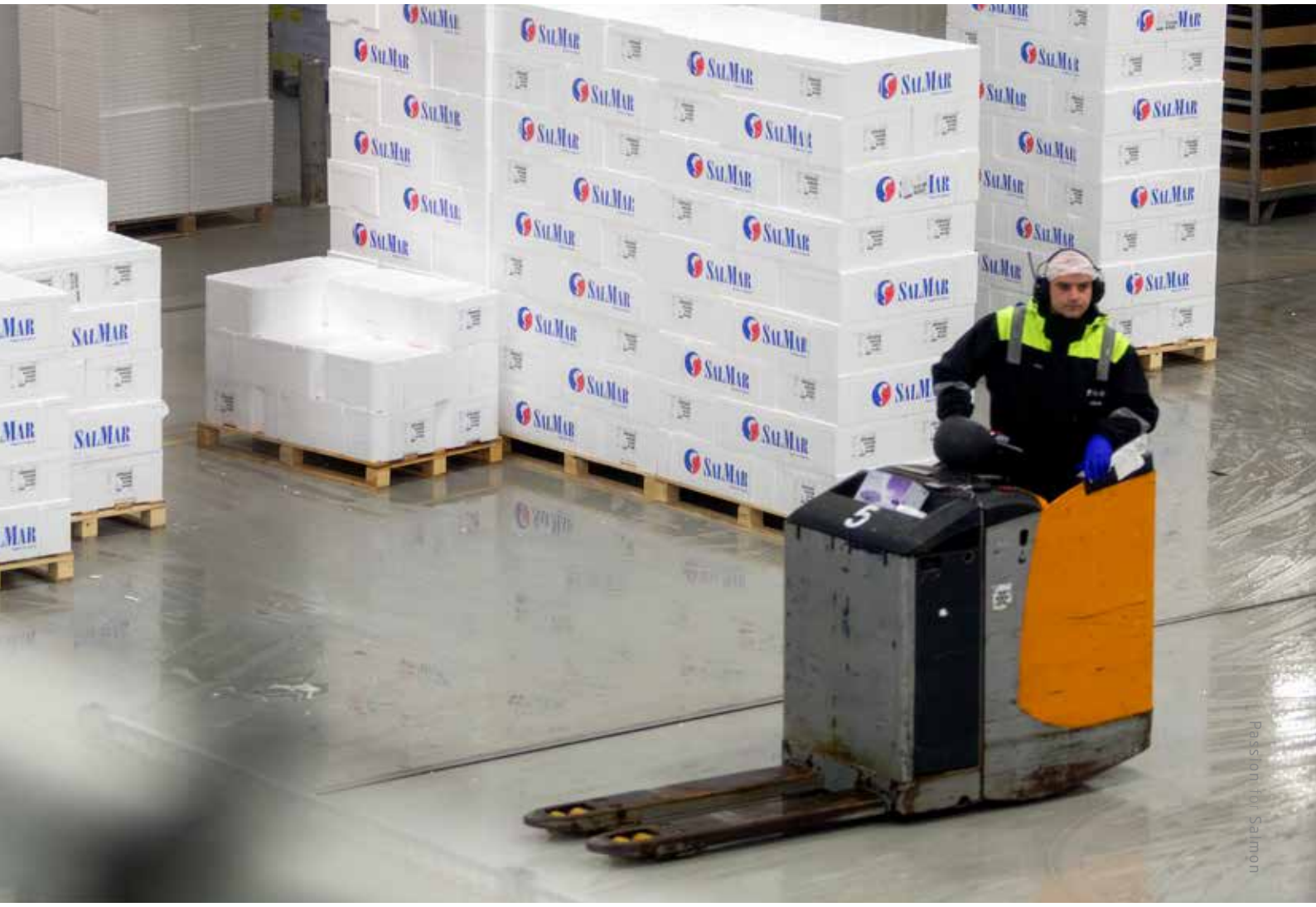
To date, SalMar has not received any reports of corruption or other violations of its code of conduct. Nor has any wrongdoing been reported internally.

Regulatory compliance

The aquaculture industry is strictly regulated and companies must comply with applicable laws and regulations. Here we report the number of regulatory violations that have resulted in fines (January to December). This includes all violations relating to products and food safety, environmental and social regulations that resulted in monetary fines.

	Type of regulatory violation	No. of violations	Fine (in NOK)
2018		0	0
2017		0	0
2016		0	0

* In accordance with the Global Salmon Initiative's methodology



5. The job we do today is vital to the success of us all

What counts is what the individual employee does today – every day. At SalMar we are very conscious that every action and every day is important, and that success depends on the individual and collective efforts of the entire workforce.

In this chapter we will present the day-to-day efforts being made to achieve the Group's sustainability targets for fish welfare and the external environment, and report on our current status.

Preventing the escape of fish

SalMar has a clear goal of zero escaped fish. Seven escape incidents were reported at SalMar's facilities in 2018, and the official statistics state that a total of 15,820 fish escaped from the Group's facilities.

The Group had one major escape incident, while six occurred during fish handling and involved a total of 15 individual fish. These non-conformances have been dealt with internally and remedial measures implemented.

Escape events (official figures published by the Norwegian Directory of Fisheries)

	Target 2019	2018	2017	2016
No. of escape incidents	0	7	7	6
No. of escaped fish	0	15,820	1,951*	5,859

* of which 20 lumpfish

In September 2018, there was a fish escape incident at our pilot Ocean Farm 1 facility. When the installation unexpectedly heeled over, part of the net dipped briefly underwater. The installation was quickly righted and measures were implemented to recapture escaped fish. When the net pen had been emptied, a total of 15,805 fish were missing. This was reported to the authorities. Based on experience with unregistered attrition, observations in connection with recapture at sea, as well as surveillance of rivers and fjords, it is estimated that the actual number of escaped fish was considerably lower. SalMar takes this incident extremely seriously and has subsequently carried out investigations and implemented a number of measures to ensure it cannot happen again.

The Norwegian Institute for Nature Research (NINA) was engaged as an advisor and consultant on surveillance activities and the follow-up of damage-limitation measures. NINA is deemed to be one of the world's most competent organisations with respect to wild salmon and the interaction between wild and farmed salmon. SalMar was ordered to monitor 12 salmon rivers, but elected to institute a surveillance programme involving a larger number of pound net stations in the mouths of important salmon rivers along the entire coast of Central Norway, and put 40 salmon rivers under surveillance. During the autumn of 2018, no unusual influx of escaped farmed salmon was identified in the rivers in the Namsen and Trondheim fjords.

SalMar continues to strive every day to prevent fish from escaping. This means focusing on day-to-day routines for monitoring and checking the technical equipment, as well as procedures for operations involving the handling of fish. In addition, we continue to collaborate with suppliers and research environments on the development of more secure equipment.

Fish welfare

Fish health and fish welfare are two important focus areas at SalMar. SalMar's entire philosophy rests on the presumption that good health is a precondition for the salmon to thrive and achieve their maximum potential. This in turn is a precondition for achieving good financial results. In our view, the best indicator of fish welfare is the fishes' rate of survival from their transfer to the sea until harvesting (measured by generation). SalMar's target is for 95 per cent of the fish to survive this period. We are working systematically at the generational level and implement appropriate measures to reduce the mortality rate. The company has its own dedicated fish health personnel who works both locally, regionally and at company level.

For annual reporting purposes, we use a 12-month rolling survival rate. This is to adjust for short-term variations and to allow longer time trends. The table below shows the status from 2016 to 2018.

	2018	2017	2016
12-month rolling survival rate*	94.3%	94.1%	94.6%

* *Calculated for the last 12 months as a percentage of the fish held in sea in the last month of the year (adjusted for harvest and mortality), in accordance with the Global Salmon Initiatives methodology*

We know that smolt quality, infectious diseases and handling are the primary causes of mortality. In 2018, we made tangible progress in our efforts to improve smolt quality. We still

need to work on ways of reducing mortality in connection with delousing and the treatment of viral diseases such as PD, HSMI and CMS.

Use of antibiotics

Resistance to antibiotics is a growing problem worldwide. To prevent the development of resistance it is important that all food producers do what they can to keep the use of antibiotics as low as possible. The Norwegian monitoring programme for antibiotic resistance (NORM-VET 2017) concludes once again that the use of antibiotics in the production of Norwegian salmon is extremely low. Indeed, it is far lower than for all other farmed livestock. Antibiotics were used at SalMar's Norwegian facilities on one occasion to maintain fish health and comply with the provisions of the Norwegian Animal Welfare Act. This involved a total of 8.5 kg antibiotics in 2018, administered to smolt-stage fish. 98.6 per cent of our fish groups were not tretaed with any antibiotics at all. The treatment corresponded to an average consumption of 0.05 g of active ingredient per tonne live weight of salmon produced by the Group as a whole, and shows that the very low use of antibiotics continues.

Use of antibiotics per tonne biomass produced (LWE) in 2016–2018 (incl. broodfish)

	2018	2017	2016
g active ingredient (API)/ tonne of biomasse produced (LWE)	0.05	0.61	0.21

Important steps to keep the use of antibiotics at a low level include the vaccination of fish, ensuring good day-to-day fish welfare and upholding the zoning boundaries between generations of fish. Fig. 1 shows the sharp reduction in the use of active ingredients, as well as the growth in the volume of farmed salmon in Norway from 1981 until 2017.

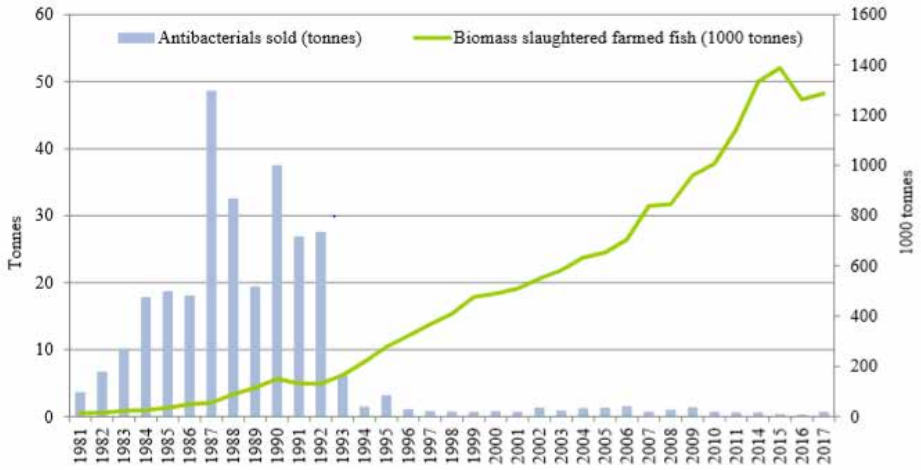


Fig. 1: Total sales (kg) of active antibacterial agents for farmed fish in Norway in the period 1981–2017 compared with the biomass produced (harvested) in the same period. (NORM/NORM-VET 2017)

Farming location Indre Bringenes in Mefjorden on Senja.
Largest mountain in the background, Breitinden 1,001 m.

Average no. of adult female lice per month

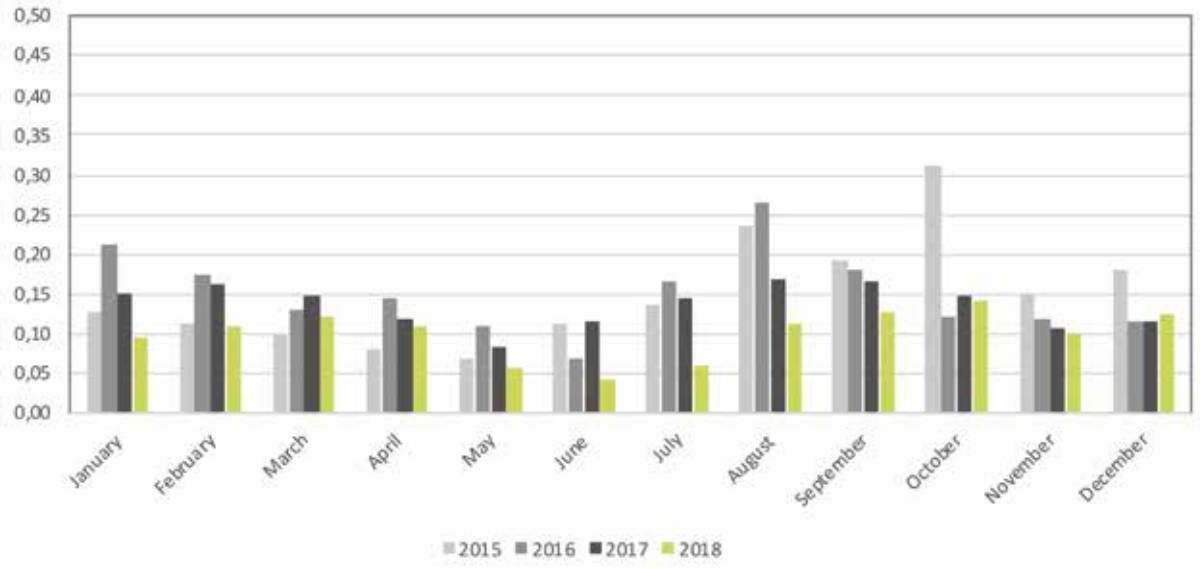


Fig. 2: Average no. of adult female lice per month at SalMar (excluding broodfish).

Sea lice and delousing methods

We continue to pursue a goal of zero non-conformance with the prevailing salmon lice regulations. In 2018, SalMar worked hard to keep lice numbers under control at our facilities and we experienced a further reduction level of average lice infestation compared with 2017 (see fig. 2). This applies particularly to the Fish Farming Central Norway segment, where the problem was most serious in 2017.

Our production licences stipulate a maximum permitted number of lice. As a rule, the number is capped at 0.5 adult female lice per fish. However, for certain types of licence and in certain areas, the lice threshold is 0.2. All fish farmers report lice numbers to the authorities weekly using the government's online portal Altinn.

In 2018, 0.3 per cent of SalMar's reported lice observations exceeded the maximum threshold. Most of this year's non-conformances were due to health or weather conditions in the high season. This means we achieved compliance with the regulations and are well positioned to implement further improvements. The company has the situation under control and has proved capable of deploying countermeasures in a timely manner. In this way, we have succeeded in keeping lice levels low.

Our success can be attributed primarily to our considerable emphasis on *preventive measures*, including lice skirts, continued in-house production of lumpfish and use of non-medicinal delousing methods (IMM). The way we apply IMMs has been further enhanced with the establishment of a dedicated team responsible for their application. We have therefore been able to cut our use of medication even further. The number of net-pen treatments using medication was reduced by a further 44 per cent from 2017 to 2018, and in Mid-Norway it is only used IMM-treatments and not performed a single bath treatment with medication in 2018. The trend is continuing into 2019. SalMar has not used feed-based chitin synthesis inhibitors in its efforts to combat sea lice neither in 2017 nor in 2018, in line with the Group's strategy regarding this controversial product group.

Observations above the lice threshold, %

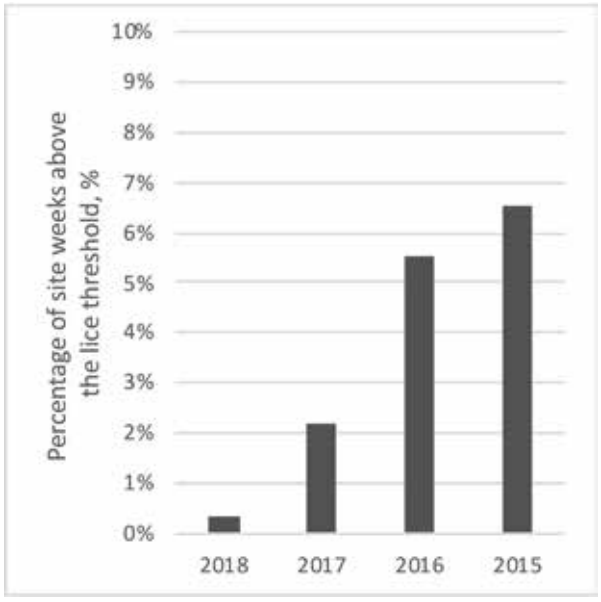


Fig 3: Percentage of observations above the lice threshold at SalMar (no. of site weeks with adult female lice above the maximum threshold) excluding broodfish.

SalMar continued to participate in the testing of "zero emission treatments" in 2018, and the results are promising. This means the application of medicinal bath treatments in a closed unit with no emissions to the surrounding environment of any kind.

The main strategy is to reduce the number of treatments through preventive measures, such as lice skirts, reduced cycle time and fallowing, and the use of in-house produced cleaner fish. As a consequence of increased handling in connection with

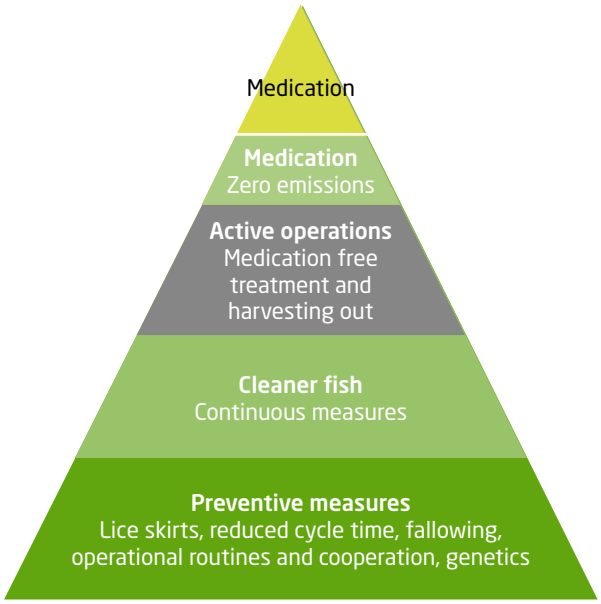


Fig. 4: Visualisation of the strategy to combat sea lice

the struggle to eradicate salmon lice, we experienced a higher mortality rate in 2018. This is something we are working hard to reduce. We have tightened up our risk assessments before and during treatment, and evaluations after treatment has been completed. Fish welfare is our main focus, and new tools are being developed to improve these work processes.

We are still working on tangible improvements in our technical equipment, to make its use less harsh and ensure better fish welfare. At the same time, we are working to develop effective tools (indicators) that can help us better predict the status of the fish's welfare. We have not yet reached our goal, and will continue our efforts in this area in 2019.

Green licences

Following the Norwegian authorities' 2013/2014 round of licence allocations and at the close of 2018, SalMar had a total of 16 'green' licences. Eight of these are purchased 'Green-B' licences and eight are 'Green Converted' licences. The terms of the green licences set stricter limitations on the number of salmon lice and the number of medicinal delousing treatments, as well as a stronger focus on escape prevention. In connection with its green licences, SalMar has focused particularly on the use of cleaner fish, in the form of farmed lumpfish, to control sea lice levels, and the use of a more secure net-pen construction. We have also emphasised participation in a salmon surveillance project in Trøndelag's salmon rivers, in order to assist in the development of methods and expertise related to the tracking and mapping of escaped farmed salmon in rivers. So far, experience from the operation of these sites has been good. Our focus in 2018 has been to optimise the way the cleaner and the use of lice skirts works with the fish net pen design. A separate annual report is published summarising SalMar's experience and evaluating the operation of its green licences.

Interaction with wildlife

Although SalMar places considerable emphasis on minimising its impact on wildlife, our presence does sometimes affect other animals. Here we report on the number of birds and marine mammals that have died as a consequence of our activities.

*Total no. of interactions divided by the total no. of sites from January to December **

	Birds		Marine mammals	
	Accidental Mortalities	**Intentional Mortalities**	**Accidental Mortalities**	**Intentional Mortalities**
2018	0.45	0.05	0	0
2017	0.43	0	0	0
2016	0.34	0	0	0

**Calculated in accordance with the Global Salmon Initiative's methodology*

Effective feed utilisation

Second only to the fish themselves, feed is the most important input factor in the production of farmed salmon. The nutritional value, consistency and taste of the feed are important. Equally important, however, is correct dosing to ensure that the feed is utilised as effectively as possible and keeps the fish healthy. SalMar has focused heavily on competence development and specialisation for those responsible for feeding the fish. Effective feed utilisation (feed factor) is one of the key performance indicators that we follow up all the time. In 2018, we held a series of seminars and training courses specifically for the staff who feed the fish. Further skills development and dissemination of best practices within the company is the objective.

Feeding is tailored to the fish's appetite in each individual net pen. It is monitored using underwater CCTV cameras, up-to-date technology that shows where in the water column the fish are located, and weight checks. In this way, optimal feeding is achieved. The benefits of correct feeding include optimal growth, a low feed factor, reduced emissions, fish that thrive and have a greater resistance to disease, low mortality, smaller variations in fish size, less harvesting waste and higher quality fish flesh. The equipment and the feed must be appropriate, but the competence that has been built up in SalMar with regard to feed and feeding is a significant factor for the achievement of good results. In 2018, we continued to focus on the developing of feeding centres that remotely control the feeding of our fish stocks. By bringing skilled staff together in one place, we are further developing the "control room" and facilitating the implementation of new routines and continuous learning.

Systematic monitoring of the feed's chemical, physical and biological quality

SalMar uses an all-round feed that optimises production and promotes good fish health. In other words, a high-value salmon feed that ensures good growth, a low feed factor and meets the fishes' nutritional needs. In 2019, almost 190,000 tonnes of dry feed pellets were used in SalMar's salmon farming operations. In addition, a modest volume of feed was used for the company's own production of lumpfish.

In addition to monitoring the raw materials used, SalMar also checks the nutritional value of the feedstuffs used in the hatcheries and marine-phase fish farms. This is verified through their fat, protein, phosphorous and fibre content. SalMar performs routine controls on the feeds' physical quality on receipt to identify non-conformances (dust & crumbs, floatability and oil leakage).

Sustainable feed

The feed is formulated to meet the salmon's nutritional requirements, and raw materials are combined to achieve an optimal solution for fish health, effective growth, sustainability and price. No genetically modified raw materials are used in the feed, nor have any genetically modified raw materials been found in feed used by farmed salmon in Norway.

Use of marine raw materials in the feed

The Norwegian aquaculture industry uses fish meals and fish oils only from lawful and regulated fisheries. Today, the proportion of marine products in the feed stands at approx. 20–33 per cent. SalMar requires all its feed suppliers to buy marine raw materials that comply with the International Fish Meal and Fish Oil Responsible Supply Standard (IFFO RS)[1], are MSC-certified[2] or equivalent. This is to ensure the sustainability of the fisheries from which the ingredients derive. For 2018, 99.3 per cent of the marine raw materials used by our main feed suppliers were certified in accordance with the IFFO RS standard.

Low dependence on wild fish stocks

As a measure of feed sustainability, we have elected to present here the Fish Forage Dependency Ratio (FFDR). This quantifies our dependence on wild fish stocks as raw materials in our feed. This is done by assessing the volume of live fish from small pelagic fisheries that is required to make the amount of fish meal or fish oil needed to produce one unit of farmed salmon. The lower the FFDR we can achieve, the more salmon we can produce on the basis of a globally limited supply of marine raw materials. In addition, we continuously monitor and measure the feed factor (the amount of feed required to produce 1 kg of fish).

According to the ASC standard, feed is deemed to be sustainable if its FFDR (fish meal) is <1.2 and its FFDR (fish oil) is <2.25. In 2018, SalMar achieved an FFDR (fish meal) of 0.51 and an FFDR (fish oil) of 1.66, both these values are far below the ceiling specified in the ASC standard.

Fish Forage Dependency Ratio	2018	2017	2016
FFDR (fishmeal) kg per kg salmon produced	0.51	0.59	0.5
FFDR (fish oil) kg per kg salmon produced	1.66	1.60	2.07

* average per kg salmon measured in accordance with the ASC Standard's methodology

In 2018, the largest sources of marine raw materials in the feed were herring offcuts, blue whiting, anchovies, white fish offcuts and bony fish. Overall, by-products (offcuts and trimmings) accounted for 40 per cent and 24 per cent, respectively, of the raw materials used by our two largest feed suppliers. This proportion has risen sharply in recent years. The feed companies' own sustainability reports document this in further detail.

Use of soya in the feed

Vegetable raw materials are an important ingredient in fish feed. Vegetable-based proteins currently make up 35–45 per cent of the feed. At SalMar, we require our feed suppliers to purchase soya from sustainable sources that are certified in accordance with ProTerra, RTRS or equivalent environmental standard. This means that the soya is not farmed in areas threatened with deforestation, and has not been genetically modified. The Norwegian aquaculture industry currently purchases approx. 0.3 per cent of the world's soya production. To promote the sustainable farming of soya, SalMar's main feed suppliers in 2018, EWOS and Skretting, used only ProTerra-certified soya – the strictest certification scheme.

In 2018, questions were raised about compliance with the certification schemes' regulations. These questions were taken seriously and investigation were commissioned by our feed suppliers. DNV GL found no violations of the rules for suppliers nor any evidence that soya bought from suppliers in Brazil came from farms engaging in illegal deforestation. The efforts to ensure that the certification schemes' regulations are actually complied with will continue. The focus will be to work with Brazil's soya industry, make the demands clear and follow up to make the soya industry more sustainable. The feed suppliers also participate in several sustainability partnerships, including the Round Table on Responsible Soy, the ProTerra Network, the Roundtable on Sustainable Palm Oil, the Aquaculture Stewardship Council, IFFO's Responsible Supply Standard and the Global Salmon Initiative.

Site environment

The seabed beneath all sites is inspected regularly to see whether/to what extent the surroundings have been affected by our operations. We are working continuously to find the optimal locations for our farms, such that we can realise our objective of having all our operational sites with a condition designated as "very good or "good" (MOM-B score of ≤ 2). In 2018, 85 per cent of our operational sites achieved this (82 per cent in 2017 and 89 per cent in 2016). This percentage relates to sites where conditions were designated "very good" or "good". Since we take account only of samples taken at peak

1 The Marine Ingredients Organisation http://www.iffo.net/
2 Marine Stewardship Council http://www.msc.org/

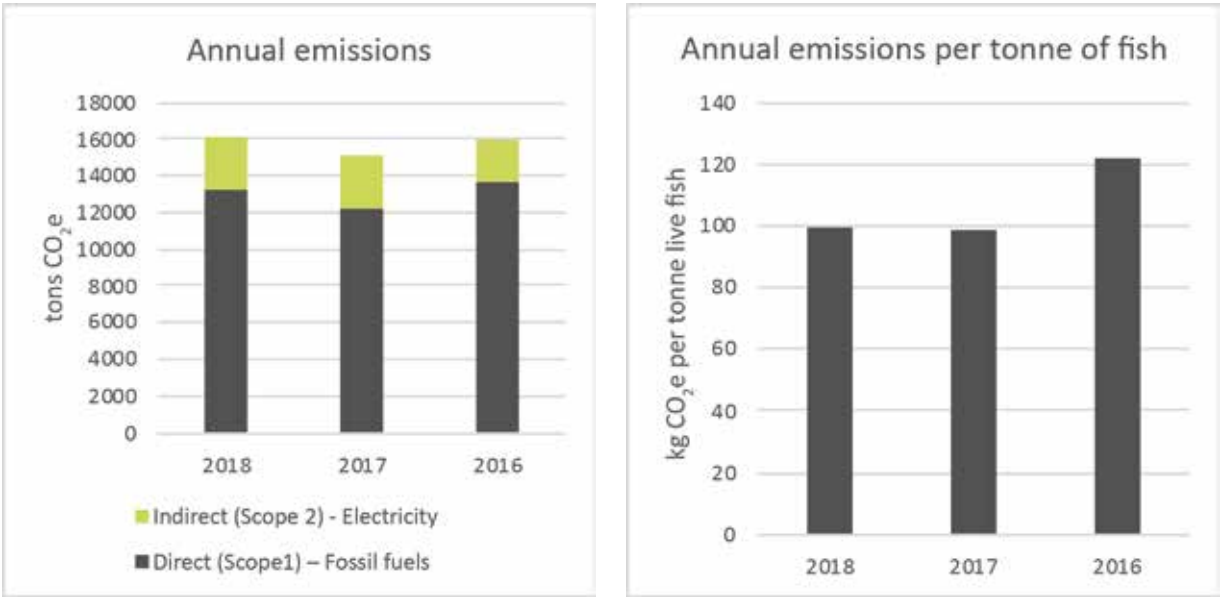


Fig. 5: Total annual CO_2 equivalent emissions and CO_2 equivalent emissions per tonne live weight 2016–2018 (Scope 1 and 2).

production, there will be some variation from year to year. In 2018, we worked on the relocation of several farms, as well as the development of methods to improve the assessment of what constitutes a site's optimal use. SalMar's open-ocean fish farming strategy is also part of a long-term strategy to optimise the site environment.

All sites had a satisfactory MOM-B score before the release of new fish stocks.[3]

Together with the Norwegian Seafood Federation (Sjømat Norge), other fish farmers and research institutions, SalMar monitors large areas to see whether fish farming operations are having a regional impact. The Institute of Marine Research's latest Risk Assessment of Norwegian Aquaculture (2018) states that emissions of nutrient salts create no risk of eutrophication along the Norwegian coast, although this may be an issue in certain sheltered areas. SalMar's facilities are not located in sheltered areas, but are largely sited in localities with extremely good water flow. The choice of a location is the outcome of a thorough process, including checks that it does not conflict with protected areas or the interests of other stakeholders, etc. This also applies when reapplying to the authorities for permission to use a site.

Greenhouse gas emissions

A lifecycle study performed by Sintef Fiskeri og Havbruk and SIK (Institutet för Livsmedel och Bioteknik i Sverige), shows that salmon production is considerably more climate-friendly than the production of beef and pork. Among other things, the study shows that the production of 1kg of farmed salmon generates half as many carbon-equivalent emissions as the production of 1kg of pork, and around one-seventh of the amount generated by the production of 1kg of beef.[4]

The climate balance sheet presents a general overview of the company's greenhouse gas (GHG) emissions, translated into carbon equivalents (CO_2e), and is based on reported data from internal and external systems. SalMar's energy and climate balance sheet has been drawn up by the company CEMAsys, and the analysis is based on the recognised international GHG protocol. The emissions included are those over which SalMar has operational control and can implement measures to influence future emissions. The industry's largest source of emissions is the production of feed, in which respect we refer to the feed producers' reported targets and results. Table 4 below shows SalMar's energy consumption and GHG emissions.

In 2018, the GHG intensity per tonne fish was unchanged from 2017, though there was a slight increase in overall GHG emissions (up 6.6 per cent). This increase corresponds to the increase in the company's production volume.

SalMar used 5,026,458 litres of fossil fuel (197 TJ) and 132,378 MWh of electricity (477 TJ) in 2018.

SalMar has an agreement with its main provider of electrical power, which guarantees that 39.3 GWh of the power delivered derives from 100 per cent renewable sources. In addition, waste heat and local power sources are used at several of our facilities. As a result, 81 per cent of the electrical power consumed in 2018 is covered by green certificates or comes from the use of waste heat.

Water consumption

Aquaculture generally has a very low freshwater requirement compared to much other food production. The fish live the largest parts of life in seawater an are there independent of freshwater supplied. SalMar's freshwater consumption there-

3 MOM-B test complies with Norwegian Standard NS9410. We use active sites in 2018, were samples at max. production were taken.
4 Source: *Carbon footprint and energy use of Norwegian seafood products* SFH80 A096068

fore comes mainly from the land-based smolt facilities as well as harvesting and processing plants.

	2018
Total water consumption (1,000 m^3)	57,316
of which surface water	56,479
of which municipal water	837

Sustainable smolt production (Chapter 8) describes some of the efforts the company are doing to reduce freshwater consumption. Transition from through-flow smolt facilities to facilities based on recycling technology (RAS) is part of the strategy to bring down freshwater consumption in our smolt facilities.

Waste and recycling

All SalMar departments have a waste-management plan, which stipulates the receiving facilities approved for various types of waste. Packaging and used fish farming equipment, such as collars, nets and mooring devices are delivered to undertakings that reuse the materials.

Table 4 Energy and climate balance sheet

		2018	2017	2016	2015	2014	2013
Energy consumption							
Direct (Scope1) – Fossil fuels	TJ	197	182	195	173	161	112
Indirect (Scope 2) - Electricity	TJ	477	454*	154	159	164	146
Total energy consumption	**TJ**	**674**	**636***	**349**	**333**	**325**	**258**
Greenhouse gas (GHG) emissions							
Direct (Scope 1) – Fossil fuels	tCO_2e	13,276	12,158	13,621	12,350	11,471	7,957
Indirect (Scope 2) - Electricity	tCO_2e	2,897	3,019	2,399	2,835	4,137	4,537
Total carbon emissions (Scope 1 and 2)	**tCO_2e**	**16,173**	**15,177**	**16,020**	**15,185**	**15,608**	**12,494**
Upstream activities Scope 3[5]	tCO_2e	17,143	21,173	12,310	11,149	9,821	8,767
Intensity							
Energy intensity	GJ/tonne live fish	4.2	4.13	2.65	2.14	2.02	1.97
GHG emission intensity	$kgCO_2e$/ tonne live fish	99.5	99	122	98	97	95

* The increase from 2016 to 2017 is due to a change in measurement method (consumption of waste heat is included with effect from 2017.

5 Includes upstream activity from Scope 3 over which we have operational control, ie emissions deriving from the haulage of live fish and company staff's business travel.

6. The job is not done until the person you are doing it for is satisfied

Salmon production is a collaborative process, in which the individual elements are mutually dependent and understanding the customer – whether internal or external – is vital. In this chapter we will focus on SalMar's suppliers, products and markets. Food safety and more processing are focus areas for sustainable development at SalMar. Both issues will be discussed in detail in this chapter.

The value chain

The farming of fish is the part of the value chain in which SalMar has the greatest impact on the environment. Our efforts with respect to the environment and sustainability will therefore be focused primarily on our biological production. SalMar produces its own roe and smolt, but was still obliged to buy in some of its fish stocks in 2018. In addition to a strong internal focus on sustainable production, we therefore make demands on our suppliers.

The most important input factor, in addition to roe and smolt, is the feed that the fish eat. Since the largest feed suppliers in 2018, EWOS and Skretting, both publish their own sustainability reports, please refer to these for further information. For SalMar, an extremely important sustainability issue relating to fish feed is digestibility and nutritional value. The composition of the feed must ensure the effective utilisation of the raw materials, good fish welfare, good fish growth and thereby a shorter marine-phase production time and minimal emissions. In addition, it must contain high levels of important amino-acids and other nutrients.

Other important suppliers of significance to SalMar's environmental footprint include producers of equipment, electrical power, chemicals and packaging, as well as maintenance, well-boat and fish-health service providers. Several of the suppliers in the above-mentioned categories participate in sustainability improvement projects along with SalMar.

Certification

Proximity to markets and customers is important for SalMar. Our customers are global, and include exporters and importers of various sizes, as well as major processing companies and supermarket chains. Through the sale of our products, the Group has contacts in several countries worldwide.

SalMar is certified in accordance with the following customer and third-party standards: Global G.A.P., Debio, ASC, Kosher, BRC, IFS, HACCP and MSC (for the sales segment). This involves regular dialogue with both the certifying bodies and customers. The requirements for and follow-up of these certifications comes in addition to follow-up by the regulatory and government authorities. In 2018, a total of 182 audits of SalMar's operations were carried out by third parties.

The table below shows an overview of the certifications SalMar has obtained.

Global GAP	Debio	ASC	Kosher	BRC	IFS	HACCP	MSC
Whole value chain			Processing				Sales

Aquaculture Stewardship Council (ASC) Standard

The Aquaculture Stewardship Council (ASC) is an independent, international non-profit organisation, which has established the world's most stringent sustainability standard. The Standard was published in June 2012 and was drawn up after several rounds of discussions called the "Aquaculture Dialogues". Representatives from several aquaculture and fish processing companies, suppliers, supermarket chains, independent organisations, government and regulatory institutions, and various research establishments from around the world took part in the discussions.

It is SalMar's goal to be able at all times to deliver fish from ASC-certified farms. At the close of 2018, we had a total of 20 fish farms with ASC certification. This accounts for 31 per cent of our active sites. More will follow in 2019, giving us access to ASC certified fish from a large number of sources.

The mission of the ASC Standard is to bring aquaculture one step closer to the sustainable, environmentally and socially responsible production of salmon. This is achieved through effective market mechanisms that create value along the entire value chain. By choosing ASC-certified salmon, consumers can be assured that they are buying salmon from a responsible farmer.

With more than 400 auditing criteria within seven main categories, the ASC Standard is difficult to achieve. It demands substantial resources with respect to documentation and reporting, before, during and after certification. In the past year, SalMar underwent 23 ASC audits, including both first-time audits and annual follow-ups. In addition, SalMar has been certified in accordance with the ASC's Chain of Custody scheme. Openness regarding our performance is a key aspect of the standard. Further details can be found on our website www.salmar.no, and the ASC's website www.asc-aqua.org. With effect from June 2017, a new and stricter version of the ASC Standard came into effect. Subsequently performed audits show that we have taken further steps on the road to becoming one of the world's most sustainable food producers.

Products

Local processing enables SalMar to offer a wide range of first-class, fresh, frozen and organic salmon products.

Salmon and health

Norwegian salmon contains a number of nutrients which make it an important component of a balanced diet. Norwegian salmon is a healthy and tasty food. Salmon is safe to eat, and is one of our most analysed foodstuffs.

The World Health Organisation (WHO) has published a thorough report on both the risks and benefits of eating salmon. The report concludes that eating oily fish, like salmon, reduces the risk of cardiovascular disease. It is the products' fat composition, with a high content of the omega-3 fatty acids EPA and DHA, but also vitamin D, Selenium and easily digestible proteins, which contribute to this health benefit. The report warns of higher mortality rates if too little seafood is eaten. The biggest challenge with respect to seafood consumption remains the fact that people in general eat too little of the important nutrients provided by fish. One salmon meal a week (150g) has proved sufficient to cover the body's recommended intake of the healthy fatty acids EPA/DHA.

The Norwegian Scientific Committee for Food Safety (VKM) makes recommendations to the Norwegian Food Safety Authority. The VKM has concluded that it is well documented that oily fish protects against cardiovascular disease, and has a positive impact on the neural development of babies, both before and after birth. The positive effects of eating seafood far outweigh any potentially negative impact.

The Norwegian Directorate of Health issues dietary guidelines to the Norwegian population. Other countries have similar bodies that advise their citizens. The Norwegian Directorate of Health recommends a varied diet, and oily fish, such as salmon, is an important part of a varied and balanced diet.

Food safety

SalMar's production is subject to Norwegian regulations for food production, and our facilities are regularly inspected by the Norwegian Food Safety Authority (NFSA). In 2018, we received a total of 82 visits from the NFSA. In addition, the Group has its own sampling programme, under which feed and finished products are analysed and tested for a number of factors. The NFSA's monitoring, performed by the National Institute of Nutrition and Seafood Research (NIFES), shows very little foreign matter in farmed fish, and no samples were found to

exceed threshold values in the most recently published reports for 2017 and 2018. Further details regarding the nutritional content and status with respect to contaminants, etc, in Norwegian seafood, please visit the Seafood Data section on NIFES's website or search the Food Composition Table available from www.matportalen.no.[6] Both of these are official databases.

SalMar produces healthy and tasty foods that are easy to prepare. SalMar's products are based on first-class raw materials, and the quality is maintained right through the value chain until the salmon reaches the consumer. Thorough training at all levels with regard to procedures is important to maintain the high quality of SalMar's products. Production is organised such that the demands of different standards and customers are met. We perform regular internal audits, and welcome the public authorities, certification agencies and customers to carry out external audits and inspections. Food safety and the regulations relating thereto are taken extremely seriously.

In 2018, there were no violations of the regulations governing food safety.

Audits performed in accordance with customer and third-party standards are important to document that the products are safe and healthy for the consumer, and have been produced in accordance with the requirements and expectations demanded of modern food production. In 2018, 182 external audits of SalMar's sites/departments were carried out by the regulatory authorities, customers or third-party certification bodies. A further 64 internal audits were carried out during the year. Internal audits are an important tool for the prevention of risk. Company-specific checklists have been drawn up, which cover the most important requirements in all risk areas and from the most important stakeholders (regulatory authorities, certification bodies, customers and internal best practice).

SalMar has defined routines for the follow-up of customer complaints, and the Group has informed its customers of how they should proceed if a product they have bought does not meet their expectations. All products can be traced back through the production process, and a well-trained

team is on hand to deal with any complaints from consumers. The complaints handling process is documented in a dedicated module in our quality system, and provides managers with an overview of the current status.

Pre-rigor fillet

SalMar supplies both fresh and frozen pre-rigor fillets. SalMar's investment in pre-rigor filleting is an important strategy with respect to energy consumption, transport-related emissions, 100 per cent exploitation of the raw material and the creation of local jobs.

Pre-rigor filleting means that the fish is harvested and filleted the same day, before the fish goes into rigor mortis. This processing strategy enables delivery to the market 2–6 days earlier than has been the norm. This way of handling fish has a number of advantages:

- Fresher fish to the customer
- Firmer muscle texture, better colour, less gaping and lower drip loss
- Longer shelf-life in the market
- No need to store and mature the fish before filleting and boning

For more information on the environmental benefits of SalMar's investment in pre-rigor filleting, see chapter 8 *Focus on the solution*.

Organic salmon

SalMar is the world's largest producer of organically farmed salmon. Organic salmon is supplied year round, and production is vertically integrated from the broodfish and roe down to the finished processed products. Local processing means that we can deliver a wide variety of first-class fresh and frozen organic salmon products. SalMar supplies both pre- and post-rigor organic salmon. A high content of marine oils means that this salmon is an exceptionally good source of EPA and DHA. Developments have been extremely positive since the very beginning, and the market's demand for organic salmon is increasing.

In 2009, SalMar was certified for the farming, processing and sale of organic salmon, and the Group's first organic salmon was harvested in March 2011. Today, SalMar has five licences for the production of organic salmon, and it is produced by the subsidiary SalMar Farming AS in Møre & Romsdal. To qualify as organic, the salmon must be produced within the framework of the EU's regulations, and must be approved by Norwegian organic foods certification body DEBIO.

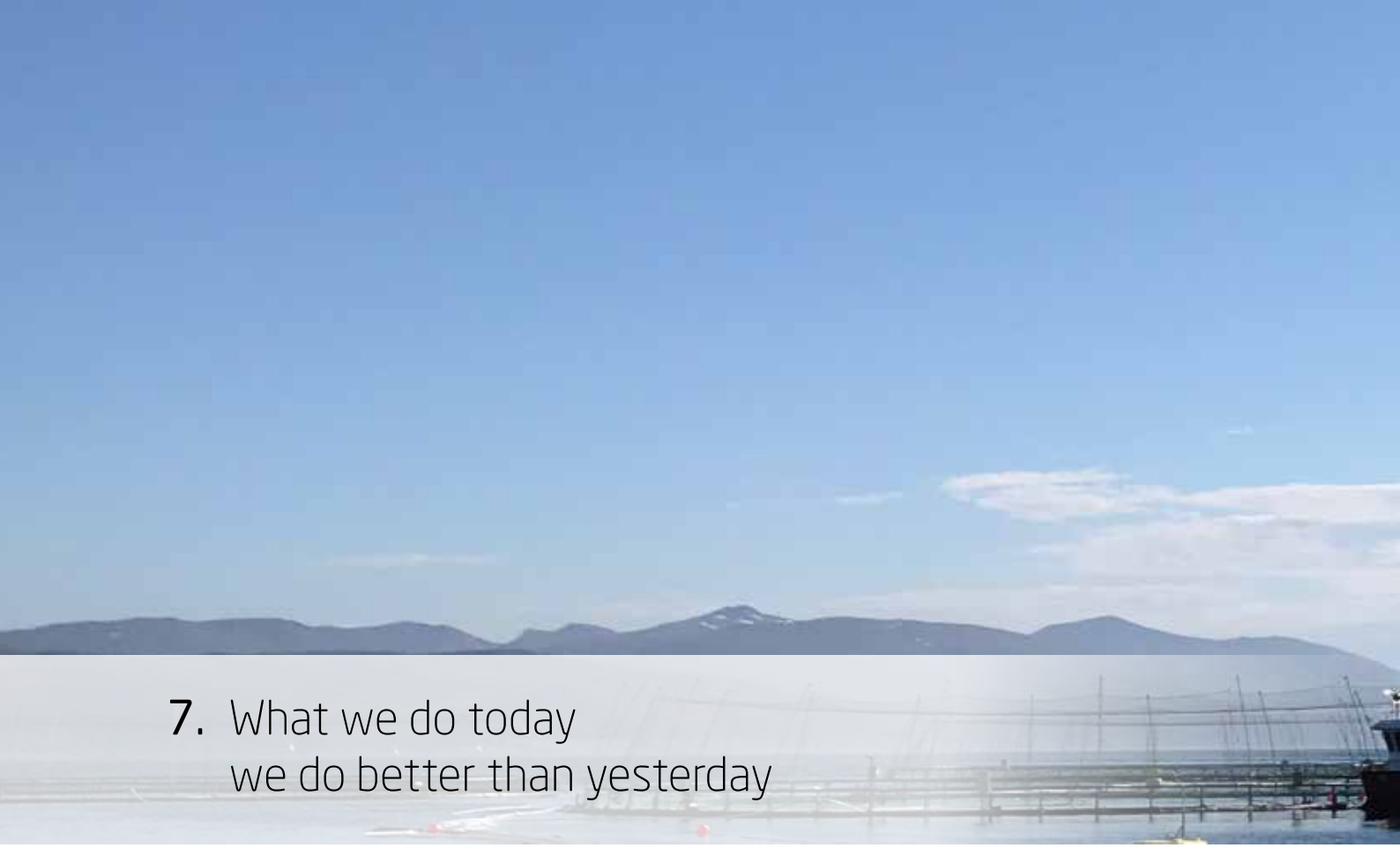
Sashimi quality

Since 2011, SalMar ASA has produced finely sliced, sashimi-quality fish. Every single salmon is handpicked, and only the best boneless pieces of salmon are used. After slicing, the fillets are packed within 1–4 hours to ensure maximum freshness and taste.

The objective is to offer a salmon product that maintains the same quality and taste as it had on the day it was caught right up until its use-by date – normally 11 days. To maintain this level of quality,

a unique packing, transport and refrigeration process is used. The majority of fish products are transported under ice in polystyrene boxes. These are difficult and expensive to dispose of. In contrast, our sashimi-quality products are transported in recycled cardboard boxes that are chilled using dry ice, which ensures optimal temperature control. The dry ice evaporates slowly, and the cold is transferred directly to the product. This ensures that the product is kept below zero degrees until it arrives at the supermarket. To prevent frost damage, Frøyas' salmon is protected by a layer of cardboard, which ensures that the salmon does not come into contact with the dry ice. As the dry ice evaporates, the salmon maintains a constant temperature that keeps its freshness.

6 https://sjomatdata.nifes.no/#search/ and www.matvaretabellen.no http://www.matportalen.no/verktoy/tilsynsresultater/trygg_oppdrettsfisk-2



7. What we do today we do better than yesterday

Our processes must be continually developed and improved if the company is to reach its objectives.

Further development and growth is closely linked to collaboration with SalMar's stakeholders. In this chapter we focus on our R&D projects and on third-party collaborations to increase sustainability, and we provide some examples of the work being done.

New transport solutions

SalMar is the first aquaculture company to have trialled the transportation of salmon to the European continent by sea. Together with the shipping company Egil Ulvan Rederi AS, a test was carried out to ship salmon from the island district of Hitra in Central Norway to Hirtshals on the Continent for onward distribution to the market. 45-foot containers were loaded up at InnovaMar and received by end-users in the Netherlands and Germany. The project produced valuable answers. The actual voyage by sea worked well, so from a quality and logistics point of view the project was a success. We learned tangible lessons about practical matters relating to freight carriers, time and costs. The challenges lie in the higher costs and the overall logistics system. Optimising return freight and the flow of goods, the distance travelled by sea, etc, are some of the key issues that must be resolved to reduce costs.

SalMar is working on several new transport projects that combine various methods of transport. New partnerships are being developed, and in the next few years the company expects to realise projects involving a combination of sea, rail and road transport. All of this is part of our sustainability strategy.

Safe trailer transport

At certain times every winter in Norway, the weather makes the roads impassable and we experience hazardous situations due to heavy goods vehicles without the proper tyres/chains. SalMar cares deeply that the products we make and deliver from our facilities should be safe for the consumer. This applies not only to food safety but also to transport. We have therefore introduced control measures and routines.

Responsibility for checking the technical standard of vehicles on Norway's roads lies with the Norwegian Public Roads Administration. However, as a buyer of transport services, SalMar demands that its suppliers meet certain standards. To haul salmon from our production facilities and harvesting plants, or from the facilities we work with, the transport services provider must sign a declaration stating that they know and comply with the Norwegian Public Roads Administration's technical requirements for vehicles in Norway. They also undertake to familiarise themselves with the prevailing driving conditions on the roads they will be using.

Together with the Norwegian Public Roads Administration, transport buyers and other partners, SalMar is a participant in the "Safe Trailer" project. This project is intended to help equip heavy vehicles to cope better with winter driving conditions in Norway, and will lead to increased safety for everyone who uses our road network. Specifically, the project involves Norwegian Public Roads Administration staff teaching our employees how to check that an HGV's tyres and chains are in order, as well as providing useful information material to the company's employees and drivers.

In addition, our staff make an assessment of whether an HGV seems to be in a technically acceptable condition and whether the driver is "competent" to drive it. In the event of any non-conformance, necessary measures are implemented. All this to ensure safer transport.

Research and Development

Norway's aquaculture industry has experienced fantastic growth and development. SalMar is an important contributor to the development of the industry, and gives high priority to the advancement of knowledge within its areas of operation.

The company does this through close cooperation with the public authorities, educational and research establishments, and industry bodies. The extent of SalMar's involvement in R&D is substantial. In 2018, SalMar has continued to focus on fish welfare and lice control. Major R&D projects have been undertaken at our processing plant, while considerable emphasis has been placed on the optimisation of feeding and the control of feeding at our sea farms. As always, we remain committed to helping the industry gain as much sector-specific knowledge as possible and effectively mobilise its shared resources.

SalMar's contacts with the NTNU have been growing in scope in recent years, which the company considers to be only natural. The NTNU's Taskforce Salmon Lice research programme was set up in 2016, partly at the initiative of SalMar. The taskforce is a collaborative effort between the NTNU and many aquaculture industry organisations. The objective is to take a broad look at the problems caused by salmon lice. The programme was well underway in 2018, and SalMar is participating actively in several of its subprojects. The NTNU has created five doctoral research positions, with postgraduate and undergraduate students attached to each one.

Endowment of professorships

SalMar is also in close contact with the University of Tromsø (UIT), and has signed a cooperation agreement involving the sharing of experience and the initiation of joint projects. One example is the work being done to establish an endowment professorship in the field of recycling aquaculture systems (RAS) at the UIT. This is a cooperative venture involving several industry players. We are extremely keen to support the education of tomorrow's researchers, and ensure that students gain a good insight into the aquaculture sector, so they can contribute to its further development.

In collaboration with the NTNU, SalMar ASA has endowed a professorship within the field of aquaculture cybernetics. The professorship is intended to promote cross-functional research linking the areas technical cybernetics, biology and aquaculture. It will act as a knowledge base for and link between the aquaculture industry and the academic world. In addition to SalMar, Kongsberg Maritime is an important partner in this effort. The professorship will also contribute to the recruitment of more students to the field of aquaculture, thus securing the industry's access to highly qualified technological expertise. This professorship will strengthen the NTNU's position as one of the world's leading universities for aquaculture and aquaculture technology. "I am pleased that SalMar is taking an important social responsibility for the development of aquaculture into a more forward-looking and knowledge-driven industry. The professorship will build a bridge between Norway's leading cybernetics research and educational community and the world's foremost centre of expertise in the field of sea-based salmon farming. Together, we will contribute to the development of new knowledge and solutions that ensure better fish welfare, more effective operations and greater sustainability in the aquaculture industry," said Gunnar Bovim, rector of the NTNU.

Active use of R&D licences

SalMar has been actively engaged in partnerships with R&D establishments for many years. This also includes collaboration on the operation of R&D licences. The scale and professionalism relating to important development tasks has increased, and continues to increase. SalMar sees itself as a professional, but demanding partner, whose aim is to ensure that the results of any trials are as relevant as possible, and that plans and protocols take account of the practical realities of fish farming. SalMar has dedicated personnel who organise and assist research establishments in their efforts, at the same time as operational staff gain more and more experience in how best to safeguard research results under busy day-to-day operating conditions. Proximity to the research, with opportunities to influence both its planning and areas of focus are important sources of motivation for SalMar. The development of vaccines, optimisation of medication, feeding and nutrition, and technological issues relating to large-scale operations are examples of important areas for further research.

Innovation relating to feed and feeding

Throughout 2018, efforts have been made to optimise feeding at our fish farms. We have continued to focus intently on optimising feeding during the fish's first 12 weeks at sea, and on providing the greatest possible feed availability during this period. This is important to achieve a healthy and robust fish.

In 2018, we continued our investment in feeding centres. At the close of the year, therefore, we had three feeding centres remotely feeding several farms from their control rooms. We have feeding centres at Finnsnes, Fosen and Smøla.

The remote feeding scheme has increased our focus on feeding and is considered a good environmental measure in terms of providing strong growth, a fast turnover and effective MAB and site utilisation. It also provides opportunities for increased focus on the competence of those employees who perform one of the most important core tasks at SalMar. Facilitating their access to real-time data and customising optimal reporting and support tools are areas the company is working on.

Increased focus on genetics

SalMar has a growing focus on breeding and genetics through the 'Rauma Broodstock'. At the close of 2016, we entered into a new collaboration in support of our increased focus on genetics. Over the next few years, we will increase the strength and structure of the team working in this strategically important area. We will have more to report in the years ahead, but in 2016 we conducted successful trials relating to natural resistance to PD infections and growth in general. The change in focus and intensity of our efforts in this area is a natural consequence of the Group's desire to control the value chain and safeguard the continued development of our products and the long-term future of our business.

R&D – escape of fish

Partnership for wild salmon

SalMar cares about wild salmon, too. And we are keen to ensure that aquaculture can coexist with those who make their living from wild salmon fishing in those areas in which we operate. SalMar is involved in several projects to monitor the influx of escaped fish in the country's salmon rivers. The largest of these projects aims to monitor the status of wild salmon and record escaped farmed salmon in the Orkla, Gaula, Nidelva, Stjørdalselva, Verdalselva and Skauga rivers. In addition to SalMar, the partners in the project are the organisation Elvene Rundt Trondheimsfjorden (ERT), while the Norwegian Veterinary Institute acts as project manager. The material collected is made available to the Norwegian Institute for Nature Research (NINA), the Norwegian Environment Agency and the County Governors' environment departments. Scale samples from all fish caught in the rivers are sent for analysis to the Norwegian Veterinary Institute, and the results are distributed electronically as they are obtained via SMS and the internet. If a large number of farmed salmon is identified in the wild breeding population, the project will – in collaboration with the regulatory authorities – assess whether it is possible to implement remedial measures. As the table below shows, a low level of farmed fish (0.5 per cent in 2018) has been found in the rivers examined.

Table 5. Catch results from the period 2011–2018 in the rivers around Trondheimsfjord (ERT).[7] The percentage of the catch tested and the percentage classified as farmed salmon, based on scale analysis

Year	Percentage of the catch tested	Percentage classified as farmed salmon, total average
2018	41.0%	**0.5%***
2017	39.3%	**0.2%**
2016	41.1%	0.3%
2015	39.3%	0.6%
2014	34.3%	1.0%
2013	46.2%	1.6%
2012	48.9%	0.4%

* The rivers with the highest percentage of farmed salmon were the Gaula and Skauga, 1.0%, and the Orkla, with 0.6% (2 fish). The Nidelva, Stjørdalselva and Verdal rivers had zero recorded farmed salmon.

7 Joint project between Elvene Rundt Trondheimsfjorden (ERT) and SalMar ASA. www.vetinst.no

In Troms, we are participating in the Wild Salmon Industry Collaboration Project through Dyrøyseminar/Nordavind Utvikling. The project covers the following rivers and watercourses: Vardnesvassdraget, Tennelva, Ånderdalsvassdraget, Grasmyrvassdraget and Salangsvassdraget. In 2018, the project will be extended to additional watercourses in Troms. The purpose of the project is to monitor the status of the rivers and implement measures to increase the number of wild salmon in them. In addition, we work closely with Laukhelle Lakselv in Senja with respect to monitoring and emergency preparedness. The same applies to Målselv.

With regard to advice and practical initiatives relating to wild salmon, we also work closely with NINA, Ferskvannsbiologen and Skandinavisk Miljøundersøkelser AS.

Along with the Norwegian Seafood Federation and other industry players, SalMar aims to operationalise methods to trace the source of escaped farmed salmon. This will be achieved through a combination of geoelement markers (traces in fish scales) and DNA (tracing of the parent fish's DNA). The company that will organise and finance the tracing scheme has been established and is currently working with the authorities to build up the necessary framework for it. These techniques will make it possible to trace escaped farmed fish back to their owner. Efforts to achieve this capability have been underway for several years.

OURO is a joint industry initiative which was set up in 2015 in response to statutory regulations requiring action to reduce the genetic impact of farmed salmon on wild fish stocks by culling all escaped farmed salmon in rivers in which their numbers are unacceptably high. Culling was carried out in 63 rivers in 2018 and 52 rivers in 2017. The OURO initiative's activities are funded by the aquaculture industry. (http://utfisking.no)

Plastic pollution

Pollution of the seas, and plastic pollution in particular, is a major problem. It has been described by some as the fastest growing threat to the environment after climate change. SalMar recognises this and wishes to help reduce the amount of plastic waste polluting the oceans, primarily through further improvements in its own waste handling and reductions in any microplastic emissions from its own operations, but also through engagements in general clean-up operations along our coast.

SalMar is working on several initiatives to reduce the volume of its plastic waste:

- We ensure that obsolete plastic equipment is recycled by delivering it to established return schemes and collecting other waste for delivery to municipal waste handling systems.
- We contribute to a reduction in the overall use of plastic materials and an increase in their reuse. This is achieved by improving the material surrounding the products and increase our use of reusable plastic boxes. See Chapter 8 for further details.
- We support measures that help to increase our knowledge of the presence and consequences of microplastics and nanoplastics in the sea (eg from feeding equipment at fish farms).
- We contribute to beach cleaning/collection of plastic waste through funding, lending boats for use during clean-up operations, as well as participating ourselves.
- We work with the Norwegian Seafood Federation and other initiatives to reduce pollution of the seas, in particular by plastic waste.

In addition, SalMar is carefully monitoring the situation with respect to our own products. We support ongoing research into the impact of nanoplastics on food safety and are participating in the development of new knowledge in this field.

Onshore power and the electrification of the aquaculture industry

SalMar is striving to make the aquaculture industry more environment friendly, and has set itself to become more energy efficient. Use of onshore power at its sea farms and electrically powered boats are two examples of the projects we are working on.

In recent years, SalMar Farming has been working on a project to run electrical cables from onshore out to our sea farms. We now have 22 sites that are supplied with electrical power from onshore. This has resulted in a substantial reduction in diesel consumption. In addition to a decrease in emissions, this is an important initiative with respect to occupational health and safety, not least as regards noise from the diesel generators.

In 2016, SalMar Farming put the world's first completely electric aquaculture workboat into operation. The Elfrida is a 13.5m catamaran that was built in Frøya by Ørnli Slipp. Siemens supplied the battery pack, which is based on many years' experience from hybrid offshore vessels and electric ferries. The workboat operates at one of our sites, Kattholmen, and expands the range of applications for electrically powered vessels.

SINTEF

SINTEF ACE, AquaCulture Engineering, was established in 2006 and manages three R&D licences on behalf of Sintef Ocean. In April 2009, SINTEF ACE and SalMar signed a cooperation and operation agreement, under which SalMar Farming AS undertakes the commercial operation of the licences in association with its own sites.

SINTEF ACE focuses on the aquaculture industry's main challenges, e.g. lice, escapes, HSE and emissions, by uniting research establishments, suppliers and producers in large scale projects, whose main aim is to develop and test new aquaculture technologies. Users are often national and international scientists and others who wish to perform practical experiments and tests under controlled conditions that are as realistic as possible.

8. Focus on the solution

Any employee faced with a challenge or difficulty has a responsibility to help come up with a solution. Every challenge represents an opportunity for progress. In this chapter we highlight some examples of internal development projects.

Increased sustainability through increased secondary processing

SalMar aims to produce a high proportion of processed products by increasing its output of filleted rather than whole fish. Since SalMar was founded in 1991, harvesting and processing have played a key role in the Group's strategy, and the the company has steadily increased its output of processed products. This has reduced transport and energy consumption, increased the potential for secondary processing and provided more employment opportunities in Norway – all of which contribute to greater sustainability.

InnovaMar, one of the world's most innovative and cost-effective facilities for the landing, harvesting and processing of salmon, went into operation in 2011. Located in Frøya, Trøndelag, the plant covers 17,500 m^2 and also houses SalMar's head offices. Through its shareholding in Vikenco AS, which operates its own harvesting facilities, SalMar is also able to harvest fish from the southern parts of Central Norway and Møre & Romsdal.

2018 was a very busy year, and InnovaMar set a world record in July, when it harvested 17,000 tonnes of fish. A large portion of the fish go on to further processing before they are sent to customers and consumers worldwide. In total, Vikenco and InnovaMar produced just over 42,000 tonnes of processed products, measured by product weight.

In 2018, it was decided to build a new harvesting and processing plant in Northern Norway. Called InnovaNor, it will be located in Lenvik, Troms. This facility will handle and make use of the increased volume from our northern segment, and represents a considerable step towards boosting this region as an important industrial driver in the company's development. Construction work will get underway in the summer of 2019, and the plant is scheduled to go into production in the first half of 2021.

Online production of pre-rigor filet

InnovaMar comprises two departments (harvesting and processing), and a great deal of effort has been made to challenge traditional solutions. Innovative production technologies increase the quality of the final product, reduce costs and improve working conditions for the staff. The plant can produce around 150,000 tonnes of salmon per year.

	2018	2017	2016	2015
Volume of processed products (1,000 tonnes product weight)	42.4	44.9	36.9	31.9

Finished products are prepared online as pre-rigor items, which affords great savings in the form of a reduced need for handling and input factors. Online production avoids the need to keep whole fish in containers filled with ice/slush in cold storage for 2-6 days. It also reduces the amount of labour and trucks needed for their internal handling and transport. The product is kept in production zones only for as long as it takes to process the finished item from whole fish. This avoids any increase in the temperature of the raw material, which is already chilled from the harvesting plant, and saves further use of ice to reduce the temperature of the finished item to the desired 2°C level. In addition to environmental benefits, online production of pre-rigor fillets is also advantageous with regard to increased freshness and maximum exploitation of the raw material. SalMar aims to turn as much as possible of the salmon into pre-rigor fillets.

Full exploitation of the raw materials and reduced emissions

Exporting pre-rigor fillets instead of whole fish reduces the weight by around 40 per cent, and consequently the need for transport. Increased processing therefore results in fewer heavy goods vehicles on the road and fewer emissions. Since fillets are cut before distribution to the market, we live up to the principle of supplying the right quality to the right customers. Any fillets downgraded due to quality issues will be transformed internally into appropriate 'secondary products'.

By-products (head, spine, offcuts) are exploited to the full. All offcuts from the production of fillets at SalMar's InnovaMar and Vikenco facilities are sent for further processing at Nutrimar, resulting in 100 per cent of the raw materials being utilised. From InnovaMar, the raw materials go directly to Nutrimar via a system of conveyer belts/pipes, which ensures a high degree of freshness and usable volume when processing this raw material. It also means that there is practically no need for input factors relating to its transport and handling.

Nutrimar was set up in 2007. Its objective was to take better care of the raw material produced by SalMar AS. Traditionally, acid was added to much of the waste raw material from salmon harvesting plants and then sold on as low-grade ensilage.

Today, Nutrimar accepts and processes 100% of the byproducts from InnovaMar. The unit also accepts all the byproducts from the Vikenco harvesting plant.

The raw material comprises day-fresh guts, heads, spines and offcuts from harvesting and processing. The products currently produced include oil, protein concentrate and meal. All these products are sold as ingredients in the commercial production of animal feeds, including fish feed and petfood.

Nutrimar modernised and improved its production facility in 2017. The upgraded factory will pave the way for the production of even more high-value oils and proteins for both human and animal consumption.

For further details, see www.nutrimar.no.

nutrimar

Reduction of food waste

SalMar leads the way by focusing intently on reducing food waste through the development of better packing and packaging solutions. We participate in national and international projects to develop and implement new solutions for effective, quality-preserving production, packaging and distribution. This is all part of our efforts to boost sustainability by reducing environmental impacts caused by food waste, materials consumption and transport through the value chain.

Product development and new packaging solutions

We are focusing on the further development of packaging solutions, including a switch to new more environment-friendly materials, the reuse of materials and the addition of other desirable properties. This includes a diversification from the traditional use of expanded polystyrene.

SalMar is working hard to increase the percentage of its products that are transported in reusable boxes. A large proportion of SalMar's pre-rigor finished products are already packed in such boxes. This affords savings in the form of a reduced need for ice and avoids having to discard the equivalent of 170,000 ordinary reusable boxes. Boxes do not have lids and are part of a circular system that sees them returned from the customer, washed/disinfected and brought back to the plant ready for reuse.

With respect to a large part of our fillet production, we have stopped using ordinary ice and have switched to dry ice made from gas deriving from fertiliser production. Removing the ice reduces the consignments' weight and volume, and thereby the emissions generated in connection with their transport.

We have developed a new type of plastic packaging for some of our finished products. By using a newly developed, thinner plastic film, we have reduced our consumption of plastic by 31 tonnes. We continue to work on the development of new and better packaging materials and technologies. We are focusing particularly on reusable boxes, ice-free shipments and packaging technology that provides complete bacteriological security.

Focus on shelf-life and quality

The development of new and improved solutions that can extend the products' shelf life is extremely important. In 2018, for example, we continued to increase our use of the Keep-It® shelf-life indicator on our products. This is an indicator that shows the temperature and the product's remaining shelf-life. This is a device that really focuses the attention of all links in the value chain (from the factory to the customer), thereby helping to increase the shelf-life of the product and reduce food waste.

We are currently working on new projects that aim to visualise the quality of the product in the package, using new technological solutions. The objective is to be able to document additional quality attributes through simple technological solutions. In this area, we are participating in a major EU project as the only representative of the aquaculture industry.

Sustainable smolt production

As at 2018, SalMar has seven salmon hatcheries, the largest of which are:

SalMar Settefisk, Senja: Located in Tranøy, the facility was completed and officially opened in the spring of 2017. It is one of the most modern facilities of its kind in the world, and is licensed to consume 1,500 tonnes of feed and has a capacity of around 17,000 m^3 of water. The facility plays a key role in SalMar's efforts to become self-sufficient in smolt in Troms and Finnmark.

SalMar Settefisk, Follafoss: This facility was established in 1985. Over the years, it has been substantially expanded and modernised. Today, Follafoss is an ultra-modern production facility, licensed to consume 2,400 tonnes of feed and produce 20 million smolt each year. Further expansion is scheduled for completion in 2019. Exploitation of alternative energy resources is crucial for the facility.

Substantial investments are being made to make smolt production as sustainable as possible. Here are some of the areas which SalMar Settefisk is working on.

Focus on survival

Robust and viable smolt are one of the most important prerequisites for high performance in the marine phase and a high-quality end product. SalMar aims to achieve a survival rate of more than 95 per cent, from the time the smolt are transferred to the sea farms until they are harvested. The hatcheries are measured on the smolt survival rate 90 days after transfer to the sea farms. Recent generations of smolt have achieved a 94.3 percent (17G), 96.7 per cent (16G), 97.5 per cent (15G) survival rate, respectively. Underyearlings in the 18G cohort have achieved a survival rate of 99.2 per cent.

To achieve a high survival rate, SalMar's hatcheries work systematically on improving smolt quality. Particular attention is paid to stable, high-quality water, good environmental conditions in the fish tanks, optimal oxygen conditions, good sorting routines, temperature control and general fish health. As part of this effort, a dedicated production biologist has been employed to focus intently on fish welfare and work with internal and external partners.

Recirculating aquaculture technology (RAS)

All our most modern hatcheries are equipped to use recirculating aquaculture technology (RAS), with approx. 97 per cent purification and reuse of the production water. This means that a RAS facility with the capacity to produce 15 million smote uses as little water as a standard water throughput facility hatchery producing around 1 million smolt. Water consumption has therefore been reduced more than 10-fold. Today, around 62 per cent of SalMar's biomass is produced in RAS facilities. Since all new capacity is built using this technology, this figure will increase as time goes by.

Because RAS technology enables a large production volume with little water consumption, it also affords unique opportunities for controlling and managing water quality. This applies

particularly to the optimisation of the water temperature without using large amounts of energy for heating. RAS facilities are an important factor in reducing the company's water and energy consumption.

Exploitation of local energy and water resources

As part of our energy efficiency efforts, we use local waterborne energy resources where possible. We have such solutions at two of our hatcheries. Follafoss, our largest hatchery, is located in Verran and uses heat exchangers to exploit the energy from the waste water produced by the cellulose plant MM Karton FollaCell AS, which is located right next door. Energy corresponding to around 20 million kWh is extracted in this way, which reduces SalMar's energy consumption by the same amount.

The hatchery's production water is obtained from the Follafoss Power Plant. A turbine has been installed in the supply pipe to the hatchery. As a result, up to 1.5 MW of electrical power is derived from the water supply before the water is used for fish production.

Our Kjørsvikbugen hatchery in Aure makes use of the water used to cool Statoil's methanol production at Tjeldbergodden. Some 20 m^3 of waste water heated to 18°C is used to heat SalMar's facility. This provides around 48 million kWH of energy per year.

Utilisation of sludge as a resource

SalMar's hatcheries are required to treat their waste water before its discharge and have established a variety of processes to utilise the resultant sludge as a resource.

In Senja, an ultramodern drying facility has been installed. As a result, all the sludge produced by the facility is dried to a 95 per cent solid, which is then delivered to a third party for use in the production of soil improvement agents that can be found on sale in the retail sector.

At Follafoss, the sludge is separated from the water using sedimentation before most of it is delivered to biogassproduction. In addition a part of it is delivered to a third party, which sanitises it by adding it to livestock manure. The resulting product is spread on fields as a soil improvement agent/fertiliser.

At Rauma Eik, wastewater treatment was also established in 2018. Slam is delivered to a waste disposal company that uses it in compost production.

Escapes

SalMar has a policy of zero tolerance for fish escapes from its hatcheries. In 2018, there were no escape incidents. The focus of attention is to have technically updated facilities, with effective backup security systems in compliance with applicable regulatory requirements.

In-house production of cleaner fish

SalMar is making extensive use of so-called 'cleaner fish' to control sea lice numbers. SalMar's facility at Langstein in Trondheimsfjord produces cleaner fish that are then transferred to our sea farms. Based on our positive experience so far, this use of cleaner fish will continue. Havlandet Marin Yngel has been contracted to produce ballan wrasse on our behalf. This will provide us with a new weapon in our battle against sea lice, particularly during the hot season. As part of the effort to provide better fish health and improve the welfare of the lumpfish, every fish is vaccinated before being transferred to a sea farm.

Each year, SalMar reports on its activities in the field of corporate social responsibility and sustainability on the basis of the guidelines issued by the international organisation, the Global Reporting Initiative (GRI). Reporting takes place via this report, SalMar's annual report and other information published on our website.

The sustainability reporting for 2018 includes data for a number of 'Standard Disclosures' from GRI's guidelines. All core elements are included, as well as a number of other indicators. An overview of which indicators the report covers is presented in the table below. The report is not externally evaluated.

The report's contents in relation to the GRI Index

General Disclosures (GRI 102)			**Deviates from GRI-requirements**
Organizational profil			
102-1	Name of the organization	Salmar ASA	
102-2	Activities, brands, products, and services	Farming of Atlantic salmon, conventional and organic, as well as rainbow trout. High-profile product: Frøyas.	
102-3	Location of headquarters	Kverva, 7266 Kverva, Norway	
102-4	Location of operations	Pages 3 and 14	
102-5	Ownership and legal form	Salmar ASA is a public limited company that is listed on the Oslo Stock Exchange. See the 2018 annual report for further details.	
102-6	Markets served	Page 14 Annual report, note 23 to the consolidated financial statements.	
102-7	Scale of the organization	Pages 3, 15–16 Annual report, pages 4–7	
102-8	Information on employees and other workers	Pages 23–24	Partly
102-9	Supply chain	Page 35	
102-10	Significant changes to the organization and its supply chain	Pages 12–15 and 42–44 Annual report, pages 18–20 and 44–45	
102-11	Precautionary Principle or approach	Page 18–20	
102-12	External initiatives	Pages 6–7 and 35–36	
102-13	Membership of associations	Norwegian Seafood Federation, Confederation of Norwegian Enterprise (NHO), OrAqua – Organic Aquaculture, Federation of European Aquaculture Producers (FEAP),	
Strategy and Analysis			
102-14	Statement from senior decision-maker	Pages 6–7	
Ethics and Integrity			
102-16	Values, principles, standards, and norms of behavior	Pages 22–23 www.salmar.no – Corporate Governance	
Governance			
102-18	Governance structure	Page 17 Annual report, pages 29–37	
102-19	Delegated authority	Page 17	
102-20	Executive-level responsibility for economic, environmental, and social topics	Page 17	
Stakeholder engagement			
102-40	List of stakeholder groups	Page 21	
102-41	Collective bargaining agreements	85.5% of the workforce	
102-42	Identifying and selecting stakeholders	Page 21	
102-43	Approach to stakeholder engagement	Page 21	
102-44	Key topics and concerns raised	Page 21	Partly

Reporting Profile			
102-45	Entities included in the consolidated financial statements	Page 4 and the annual report Annual report, note 6 to the consolidated financial statements	
102-46	Defining report content and topic Boundaries	Pages 20–21	
102-47	List of material topics	Page 21	
102-48	Restatements of information	N/A	
102-49	Changes in reporting	Page 4, none	
102-50	Reporting period	Page 4	
102-51	Date of most recent report	2017	
102-52	Reporting cycle	Annual	
102-53	Contact point for questions regarding the report	Page 4	
102-54	Claims of reporting in accordance with the GRI Standards	Page 48	
102-55	GRI content index	Pages 46–47	
102-56	External assurance	Page 46	
Management Approach (GRI 103)			
103-1	Explanation of the material topic and its Boundary	Pages 28–30	Partly
103-2	The management approach and its components	Page 22–32 Annual report, pages 27–29	Partly
103-3	Evaluation of the management approach	Page 22–32 Annual report, pages 27–29	Partly
Environmental (GRI 300)			
301	Materials used by weight or volume	Pages 34–35	
302-1	Energy consumption within the organization	Pages 30–32	Partly
302-3	Energy intensity	Pages 32–33	
302-4	Reduction of energy consumption	Pages 32–33, and 39–43	Partly
303-1	Water consumption	Page 32 and page 44–45	Partly
303-3	Reductions in energy requirements of products and services	Pages 44–45	Partly
305-1	Direct (Scope 1) GHG emissions	Pages 32–33	
305-2	Energy indirect (Scope 2) GHG emissions	Pages 32–33	
305-3	Other indirect (Scope 3) GHG emissions	Pages 34	
305-4	GHG emissions intensity	Pages 32–33	
305-5	Reduction of GHG emissions	Pages 32–33	Partly
306-3	Significant spills (Fish escapees)	Pages 26	
Social (GRI 400)			
403-1	Workers representation in formal joint management – worker health and safety committees	Pages 23–24	Partly
403-2	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	Pages 23–24	Partly
404-2	Prandrams for upgrading employee skills and transition assistance prandrams	Page 24	Partly
404-3	Percentage of employees receiving regular performance and career development reviews	Page 24	Partly
Society			
205-3	Confirmed incidents of corruption and actions taken	Page 25 Annual report, page 30	Partly
Customer health and safety (GRI 416)			
416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	Pages 36–37	

SalMar
Passion for Salmon

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