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THE DIRECTOR GENERAL'S REPORT

The contours of the Norwegian Food Safety Authority of the future

Every day, the Norwegian Food Safety Authority (NFSA) works by the vision ‘A society where food is safe and animal welfare safeguarded’. Our efforts last year were crucial for the good status in most of our areas. We will develop and become more user-oriented and knowledge-based in our work to ensure that we are equipped to carry out our tasks even better in future.

Once again, we can declare that Norway is still in a unique situation. Few people become ill as a result of ingesting food or drinking water. Animal and plant health is good. We identify and follow up situations that require follow-up by business and industry, but the severity and scope of our findings do not change that fact that this situation is unique.

This good status cannot be taken for granted, but is something we must work to maintain every day. The NFSA's important contributions include several monitoring programmes, risk assessments, supervisory activities, extensive activity in relation to business and industry and, not least, regulatory work to protect Norwegian consumers, animals and enterprises.

The NFSA is a team player. To fulfil our social mission, we must cooperate well with the parties that we supervise, other public agencies and, not least, the knowledge support institutions. Without this cooperation, we would not be able to achieve the same results.

Risk-based and targeted are our governing principles. Much of our work is still done in the field, but we now provide more guidance to make it simpler to follow the rules. We spend more resources on the most serious cases and in the areas with the biggest challenges.

In recent years, our priority areas have been the problems relating to illness, mortality and welfare in the aquaculture industry, safe drinking water supply security and the handling of chronic wasting disease. These areas will continue to be a priority in the years ahead. The problems are complex and take time to solve. We see some improvement, but there are still major challenges that we, the enterprises and society at large must continue to work on.

We have made important strategy choices and marked out a course where user orientation, knowledge-based development and organisational development are the key words. By user orientation is meant meeting and addressing users’ needs with targeted efforts. To us, ensuring that our work is more knowledge-based means developing the knowledge base on which our decisions are based. We have to work more systematically to obtain and process relevant and reliable information.

More user orientation, knowledge development and technological innovations will lead to better internal processes in the NFSA, and will help the organisation to develop in the right direction. We have to dare to think differently, renew our expertise, attract the expertise we lack and develop tools that support new ways of working.

Making such changes will be both demanding and rewarding. I am confident we will succeed, because the NFSA has a solid team. My employees work hard every day, and I would like to thank each and every one of them for their efforts last year. The good status in most of our areas and the fact that the population’s confidence in us remains strong are proof of their excellent work.

Harald Gjein
Director General
THE NORWEGIAN FOOD SAFETY AUTHORITY

The Norwegian Food Safety Authority (NFSA) is the Norwegian state’s supervisory authority for plants, fish, animals and foodstuffs. Our social mission extends from the field and fjord to the table. This means that we have an impact on the everyday lives of all Norwegians. Our vision is ‘A society where food is safe and animal welfare safeguarded’.

Social mission

The NFSA is charged with ensuring safe food and drinking water. We are to promote animal welfare and respect for land animals and fish, as well as healthy plants, land animals and fish. We are to promote health, quality and consumer interests along the entire food chain. We are to address considerations for value creation in business and industry, including market access for Norwegian products abroad. We are also charged with ensuring environmentally friendly production.

When these considerations come into conflict with each other, food safety concerns take precedence.

Framework

We carry out our duties within a framework defined by the Norwegian parliament and our three owners: The Ministry of Agriculture and Food, the Ministry of Health and Care Services and the Ministry of Trade, Industry and Fisheries. The Ministry of Agriculture and Food has overall administrative and budgetary responsibility for the NFSA.

Figure 1: Overall management of the NFSA.
How the NFSA discharges its social mission
All industry players are responsible for ensuring that they comply with the rules. Our task is to implement suitable prevention and control measures. We do this by:

- monitoring, analysing and assessing the situation and developments in our areas of responsibility
- developing national regulations and taking part in the development of international regulations
- providing guidance on and information about regulatory requirements
- controlling and following up players throughout the production chain
- communicating and sharing knowledge
- cooperating with agencies and organisations at the national and international level.

Norwegian and European food administration is based on the fundamental view that the quality of the end product is a result of everything that is done to the product throughout the production process. What you eat and drink is affected by everything that has happened on the journey from the field and fjord to the table. Our task is to see the connections, monitor and keep an overview of the situation and be present throughout the food chain, with a special focus on the areas with the greatest risks.

![Figure 2: The food chain.](image)

Organisation
The organisation has two administrative levels: the head office and five regions. The head office attends to the directorate functions. That means keeping an overview of the areas of responsibility, commissioning independent, scientific risk assessments from the Norwegian Scientific Committee for Food and Environment (VKM) and research-based knowledge support from various knowledge support institutions such as the Norwegian Institute of Public Health, the Norwegian Veterinary Institute, the Norwegian Institute of Marine Research, the Norwegian Institute of Bioeconomy Research, the Norwegian University of Life Sciences and the Norwegian Radiation Protection Authority. We also purchase services from several laboratories.
The head office translates overall management signals from the ministries/political authorities and expertise in the food area into concrete policies. The head office is responsible for the overall management of the NFSA, and for prioritising our focus areas. In addition, the head office is responsible for developing the regulatory framework, official control regime, international collaboration and the processing of appeal cases.

The regions’ main task is to ensure emergency preparedness and deal with incidents, be the public face of the region, engage in dialogue with players and industries and carry out supervisory activities. The latter includes guidance, inspections, audits, sample collection, issuing of export certificates and document control in connection with export and import.

![Figure 3: The NFSA’s organisation chart.](image)

### Key figures

**Table 1: Key figures.**

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average number of full-time equivalents(^1)</td>
<td>1 232</td>
<td>1 224</td>
<td>1 225</td>
</tr>
<tr>
<td>Total allocation and debit authorisations received, items 01–99</td>
<td>1 271 498 000</td>
<td>1 418 576 000</td>
<td>1 412 198 000</td>
</tr>
<tr>
<td>Degree of utilisation, items 01–29(^2)</td>
<td>95%</td>
<td>94%</td>
<td>97%</td>
</tr>
<tr>
<td>Operating expenses(^3)</td>
<td>1 221 179 149</td>
<td>1 332 840 909</td>
<td>1 369 079 285</td>
</tr>
<tr>
<td>Payroll percentage of operating expenses</td>
<td>65%</td>
<td>67%</td>
<td>68%</td>
</tr>
<tr>
<td>Payroll expenses per full-time equivalent</td>
<td>632 384</td>
<td>732 475(^3)</td>
<td>755 181</td>
</tr>
</tbody>
</table>

The NFSA is a government administrative agency. Read more about the assessment of key figures in Chapter III Activities and Results and Chapter VI Annual Accounts.

\(^1\) The full-time equivalents figures show the number of positions (permanent, substitute and temporary employees) converted to full-time positions, excluding employees on paid leave of absence. The full-time equivalent figures for 2015 are not directly comparable with 2016 and 2017, as they reflect the situation at year end and include employees on paid leave of absence.

\(^2\) Accounting figures from the reporting of general ledger accounts have been used for key figures for operating expenses and payroll expenses.

\(^3\) The increase is primarily caused by the premium to the Norwegian Public Service Pension Fund being recognised as an integral part of our payroll expenses from 2017.
ACTIVITIES AND RESULTS

OVERALL ASSESSMENT OF RESULTS, GOAL ACHIEVEMENT AND RESOURCE USE

Targeted efforts yield results
We have an extensive social mission which covers everything from food safety and production via animal health and welfare to environmental issues and business activities. Every year, we spend around NOK 100 million on our monitoring and control programmes and carry out around 67,000 supervisory activities. In addition, much of our information on status and risks is obtained from other knowledge support institutions. These results give us a sound basis for stating that we have good food safety and drinking water quality in Norway, and that animals are generally well cared for.

Food safety in Norway is good, with few outbreaks and incidents involving food-borne infections. The quality of our drinking water is good and few people become ill as a result of ingesting water, but old distribution networks, leakages and inadequate supply security pose a challenge. Unfortunately, we also find that food fraud occurs in more and more areas.

Plant health in Norway is good compared with the situation in other European countries, but new plant pests were introduced through import. Safe feed is a prerequisite for safe food and healthy animals, and the feed enterprises generally have good control measures in place. The dry summer of 2018 lead to increased import of coarse fodder and an increased need for import control. Norway has healthy animals and few cases of infectious diseases. Land animal welfare is generally good, but there are some challenges.

The disease and welfare situation in the aquaculture industry remains a challenge, although the mortality rate in the industry has been reduced somewhat. The lice situation for farmed fish has improved, but salmon lice remains a problems for wild salmonids in several areas.

Increasing attention is paid to the welfare of food-producing animals, pets and wild animals alike.

Norway’s antibiotic resistance situation is good. Other countries have not seen the same positive development. Our open borders make it a challenge to maintain our good status in this area.

Norway is a big exporter of seafood, and we make considerable efforts to facilitate market access for Norwegian products outside the EEA, particularly in China and Brazil.

Both Norway and the EU work to facilitate the circular economy, among other things by using animal by-products in fertilisers, while safeguarding health and environmental considerations.

In a long-term perspective, the authorities’ focus on safety coincides with the interests of a sustainable business sector. We find that most of the industry players cooperate well. It is in their best interest that dubious enterprises should not pay off. We also cooperate well with other agencies.

In this chapter, we describe our goals, results and priorities for the time ahead in our areas of responsibility, from food and drink along the entire food chain, including environmentally friendly production.

We also describe our work methods, which, among other things, include obtaining and using knowledge, developing regulations, communicating and providing guidance, carrying out supervisory activities and having contingency measures in place to handle incidents. How we do this is described at the end of this chapter.

We are pleased with the results we have achieved in cooperation with many other parties. However, we cannot take this good status for granted, and it is our task to identify and follow-up nonconformities in our areas of responsibility.
ENSURE SAFE FOOD AND DRINKING WATER

Food

Food safety in Norway is good with few outbreaks and incidents involving food-borne disease. This status cannot be taken for granted, but requires continuous awareness and follow-up. New food trends challenge our knowledge and way of working.

Status

The good status is a result of several factors. The regulatory framework is intended to ensure safe food for the consumers. The majority of food producers take the production of safe food seriously and comply with the rules. Animal health is good, and little infection is found in Norwegian livestock and food produced in Norway. We follow up industries and individual enterprises through dialogue, guidance and supervision.

Nevertheless, between 5,000 and 7,000 cases of food-borne or water-borne infection are registered every year.\(^4\) The real number is most likely higher, since many who fall ill as a result of ingesting food do not see a doctor. Many are infected while travelling abroad.

Figure 4 shows that campylobacteriosis caused the most cases of illness, while *Salmonella* and *E. coli* caused a smaller proportion of registered cases.

![Food-borne diseases in Norway](image)

**Figure 4: Number of food-borne infections contracted in Norway. Source: The Norwegian Institute of Public Health.**

Several trends affect consumers’ choice of food. New products are developed, new food sources are used and dietary habits are changing. For many years, food with an impact on consumers’ health and nutritional status, appearance and wellbeing has been a dominating trend. Other influential trends include sustainability and the climate, animal welfare, ethical food, clean and natural food. Consumers are also influenced by factors such as convenience, greater choice, quick solutions and personalisation (adaptation to individual needs).

Climate change leads to discussions about more sustainable food production. However, a more plant-based diet can increase the challenge represented by mycotoxins and natural plant toxins. Since much of such food is eaten without being heated, the risk of infective agents in the food also increases.

We regulate the level of contaminants by means of limit values, issue warnings and prohibit substances to prevent or reduce the risk of diseases such as cancer, endocrine disorders and nerve damage. New food trends and habits mean that there is a need for more and new knowledge.

\(^{4}\)The Norwegian Institute of Public Health
Goals

- Food and drink shall not contain infective agents or chemical substances in quantities hazardous to health.
- The status and development as regards undesirable substances in food shall be well documented.
- Enterprises shall have a functioning internal control system in place.

Results

Few findings through monitoring

Food safety is not a static entity, but is affected by the occurrence of infective agents or contaminants. We therefore have several monitoring and control programmes in place to keep an eye on developments.

We generally make few findings in excess of the limit values. The level of pesticide residues in food was generally low, and there were few instances where the limit values were exceeded. All instances of the limit values being exceeded concerned imported foods, including beans, apples, spices, raisins and salad.

Some samples also contained several pesticides. Calculations showed that the risk of chronic health hazards increases when the values approach the limits for Acceptable Daily Intake (ADI). We are concerned about this development, and we follow the European Food Safety Authority’s (EFSA) work on methods to assess the risk associated with combination effects. We will continue to assess the health risk it represents when residues of several pesticides are found in the same sample.

![Number of samples with findings above the limit values](image)

*Figure 5: Number of samples with findings above the limit value for pesticides in Norwegian and imported foods. Source: The Norwegian Food Safety Authority.*

Much of the food we eat is imported, and nearly 70% come from the EU. Since the EU states have the same regulatory framework as Norway, the food should have the same level of safety. Norway’s most imported product group was fruit and vegetables.

We expanded our monitoring of substances in imported foods by collecting samples of, among other things, baby porridge powder, rice, breakfast cereal, instant soup powder and spices. A small number of samples exceeded the limit values for mycotoxins.

Norwegian and imported salads and fresh herbs were examined for various infective agents. Here we found some high *E. coli* values in imported fresh herbs, and in salads produced both in Norway and abroad. The findings were followed up.

The results from seafood imported from countries outside the EU/EEA showed low levels of undesirable substances, and no residues of illegal pharmaceuticals, *Salmonella, Vibrio* or *Listeria monocytogenes* in concentrations exceeding the applicable limit values. We found some *Anisakis* (round worm) in 5 out of 53 analysed samples.

**Mycotoxins** are toxins that are produced by different microscopic species of mould and can contaminate the plant during growth or storage. We are unable to taste or smell most of these mycotoxins, and they are often difficult to remove from foods or feedingstuffs. Natural plant toxins are often found in plants, berries, fruit and fungi to protect the plant. In some cases, the environment where the plant grows has high levels of environmental toxins that can be absorbed by the plant.
We spent just over NOK 45 million on analyses of fertilisers, feed, raw materials and food. We have a good overview of most of these substances, but knowledge must be continuously updated. Our monitoring must therefore be adapted to new foods and eating patterns, and must also cover new substances. In order to better prioritise what substances to monitor, we asked the Norwegian Scientific Committee for Food and Environment (VKM) to prepare a ranked overview of contaminants that may represent a health risk.

Marine initiatives must include knowledge initiatives

Last year, the new Novel Food Regulation was adopted to facilitate innovation. The authorisation scheme was simplified and rationalised, and individual authorisations were replaced by general ones. It also became possible to apply for data protection in connection with the development of new knowledge. A simplified authorisation scheme was introduced for traditional foods from countries outside the EEA.

This regulatory amendment was important for implementing the Government’s Ocean Strategy, which facilitates the harvesting and farming of new marine species. This is a big initiative, and expectations are high. However, it is a challenge that we know too little about food safety in connection with the harvesting and production of new marine species. Everyone who introduces new raw materials must document that their products are safe, but the degree to which this is complied with for new marine species is too low. We continued the work of raising players’ awareness of the documentation requirement, knowledge collection and developing our supervisory activities to ensure safe sales.

We had an extensive dialogue on food safety with the industry and R&D environments – primarily about seaweed and kelp, but also about microalgae and other new marine species. We participated in an observer role in several research projects concerning food safety.

We also participated in the EU’s mapping and monitoring of metals and iodine in seaweed and kelp. The study showed that some products may contain high concentrations of cadmium and inorganic arsenic. Products can also contain excessive doses of iodine, which can have adverse health effects. We therefore recommend that seaweed and kelp be used with caution, and will continue our work on defining concrete advice and warnings.

The amount of mesopelagic fish currently being harvested is low, but it may grow in future. The oceans probably contain 10,000 million tonnes of mesopelagic fish – 100 times more than the amount of wild fish harvested each year. We gave the Norwegian Institute of Marine Research the assignment of studying the content of undesirable substances and fatty acids in mesopelagic fish from the Norwegian Sea and the Sognefjord. The results showed that the species generally contained low concentrations of environmental toxins and heavy metals, but it is so far unclear whether the fish are safe to eat. They can most likely be used for fish oil, fishmeal, protein supplements and feed. We need more studies on the variation and average concentrations of various undesirable substances in mesopelagic fish species.

There is a growing interest in both Norway and the EU in using insects in food and feed. More knowledge is also required in this area.

New assessments when knowledge is updated

We manage risk on the basis of results from the most recent scientific assessments. When new knowledge becomes available, we therefore have to assess whether it will have an impact on previous assessments. During the year, the European Food Safety Authority (EFSA) published new risk assessments for dioxins and dioxin-like PCBs (polychlorinated biphenyls) and PFAS (per- and polyfluoroalkyl substances) that could indicate that we tolerate less of these substances than previously assumed. Exposure via food can constitute an increased health risk.

Ninety per cent of our exposure to dioxins and dioxin-like PCBs come from our total intake of food such as fish, cheese, meat and butter. To increase our knowledge about what we can do to reduce the health risk to the Norwegian population, we commissioned a risk assessment from VKM. We have monitored dioxins and dioxin-like PCBs in Norwegian food for several years and can therefore use our own data. The result of the risk assessment will be published next year.
A risk assessment of the contaminants perfluorooctanesulfonic acid (PFOS) and perfluorooctanoic acid (PFOA) also resulted in a considerably lower limit being set. The contaminants can continue to contaminate nature even when they are no longer used, for example in the form of contamination from firefighting foam used at Norwegian airports. Although the substances are no longer in use, we find fluorine compounds in the ground that can end up in nearby lakes or in the sea and then accumulate in fish. Several times, we have considered whether there is a need to warn people against eating fish from these lakes.

Now that we know that the tolerance limits are lower, we have to reconsider our assessments.

Producers and enterprises that serve food and beverages take more responsibility
It is important to prevent illness caused by food. Every year, we provide guidance and carry out around 24,000 supervisory activities targeting producers and enterprises that serve food and beverages to check whether they comply with the hygiene, preparation and storage requirements.

Despite extensive control activities, we saw outbreaks of varying sizes. People were infected with Salmonella, Yersinia, Listeria and E. coli. Some outbreaks were caused by domestic infection, while others were caused by imported foods. Such outbreaks are often caused by food that is consumed without further heating.

More than 7,500 restaurants and cafés in all of Norway are covered by the smiley inspection scheme. After three years, the number of enterprises that serve food and beverages that received a smiley increased from 68% to 81%. At the same time, the number that received a neutral face was reduced from 30% to 17%. Only two per cent of the enterprises received a frowning face. This shows that far more enterprises comply with the rules now than previously.

Although conditions are constantly improving, the inspectors still find violations of the regulations. Most concerns requirements relating to allergen labelling and hygienic standards for premises and equipment.

More producers and distributors of local food
There is an increasing demand for local food among both rural and urban consumers. Local food players often have their own sales channels, for example REKO local food groups where people order and market their food in closed Facebook groups. The producer and buyer then arrange to meet. It is difficult to keep an overview of such new forms of sale.

We inspected 141 local producers of cheese and other dairy products. The result showed that the players mostly have good hygiene and production procedures in place. Two thirds were given no or only minor remarks. Local food producers share information and knowledge with each other and have established an industry guideline. However, improvements are still needed and we will continue our supervision and guidance work.

Listeria in salmon
Foods with long shelf-lives that are consumed without further heating are high-risk products as regards Listeria monocytogenes. Smoked, fermented or cured fish are examples of such products. Traditional fish products such as smoked salmon contain less salt than in the past, which means that they also represent an increased risk.

Studies show that up to 10% of ready-to-eat fish products contain Listeria bacteria; in most cases, the levels were low. Each link in the production chain is independently responsible for ensuring that the food does not contain bacteria in quantities hazardous to health, particularly for food that is consumed without further heating. Experience from our supervisory activities show that some players do not have sufficient control of Listeria. We reported nine consignments where Listeria was detected in Norwegian salmon products to the European Rapid Alert System for Food and Feed (RASFF).

Norwegian salmon was linked to a serious listeriosis outbreak in several EU countries which has been ongoing since 2015. Cold smoked and marinated salmon was the source of an outbreak that affected twelve people, of whom four died. The salmon had been processed in Poland. We cooperated through RASFF to identify the source and prevent further cases. The work of finding the source continues, and we cannot rule out the possibility that Norwegian raw materials may have been contaminated.
Conditions remain unsatisfactory in the white fish industry
For several years, we have carried out many supervisory activities targeting players in the white fish industry, but too many of them still do not comply with the hygiene and internal control requirements. To map why increasing the supervisory activity level has not had the desired effect, we will test a more systematic way of measuring the effects of our supervision. Among other things, this means that enterprises and fishing vessels will be informed about our main findings and what we prioritise when we carry out supervisory activities. We will continue to monitor this part of the industry, particularly during winter fisheries.

Forward-looking meat control
Production animals that are to be slaughtered and enter the food chain must be healthy. It is important to obtain and compile food chain information that can make meat control work more effective and targeted, and that will also make the slaughterhouses’ work easier.

We are therefore well under way with a project to develop a digital system support to ensure a better flow of information and utilisation of data from the livestock industry, slaughterhouses and our own meat control. In this way, we can make our control more targeted through e.g. sample collection and risk classification of holdings. This will also improve our possibilities of identifying poor animal welfare.

International collaboration in connection with outbreaks
Investigation of outbreaks across national borders requires good collaboration between the respective countries and the European Commission. Together with the Norwegian Institute of Public Health, we participated in a contingency exercise in the EU for the purpose of improving collaboration, ensuring that the notification systems RASFF and the Early Warning Response System (EWRS) are used correctly, and ensuring coordinated risk communication in a crisis.

It was through RASFF that we found out that a Norwegian case of hepatitis A was part of a Danish outbreak involving 31 cases. The source of infection in this outbreak was dates from Iran which had also been sold in Norway.

Correct and safe use of additives
Sometimes, additives are added to food to cover a technological need or to have a nutritional or physiological effect on the consumer.

Our national control project on additives in food found that, in some cases, both we and the industry have inadequate knowledge of the applicable regulations. The project increased our expertise and identified a need for guidance on these regulations. We will therefore follow this area particularly closely next year.

In recent years, we have received an increasing number of applications for permits to add vitamins, minerals and amino acids to food and beverages, and the applications have become more complex. We have identified cases where the duty to apply for a permit had not been
complied with. In addition, an increasing number of products contain additives with physiological effects for which no permit is required.

We therefore distributed a proposal for regulatory amendment for consultation. Instead of the authorisation scheme that currently applies, we have proposed stipulating limit values for vitamins and minerals added to food and beverages. This will make things easier and less resource-intensive for the industry, simplify our supervision and ensure that consumers still get safe products.

**Challenging to follow up the food supplement market**

Norway is one of the biggest markets for food supplements in Europe per capita. Experience from supervisory activities show that online sales have increased significantly in recent years. Online shopping represents a challenge to our supervision.

There are many small players in the market, and their competence level and familiarity with the regulations vary and are often inadequate. Many of them sell products that are in the grey area between food and pharmaceuticals.

We have previously found that food supplements can contain substances hazardous to health and substances that are hazardous to health in certain quantities. During the year, we imposed a sales ban on food supplements containing silver.

Substances with various nutritional or physiological effects are added to food supplements and certain other categories of foodstuffs such as energy and sports drinks. To ensure that these substances are safe to consume, we prepared new regulations. We have proposed a list of substances that can be added up to defined limit values. The list has been distributed for consultation. Such regulations will also rationalise our supervisory activities and make it more predictable for the industry which additivities are permitted under the Food Act.

We received four new assessments from VKM on the risk and intake of vitamins and minerals in food supplements (manganese, vitamin K, chromium and molybdenum). On the basis of these assessments, we will propose new maximum limits for vitamins and minerals to prevent intake from becoming so high that it has adverse health effects.

**When plastic packaging is replaced by other materials**

The food in shops usually comes in some form of plastic packaging. This often consists of plastic materials. The right packaging increases the product’s shelf life and reduces food waste. The content of plastic packaging for food is well regulated. However, plastic is an environmental problem. Therefore, the EU is in the process of adopting a ban on certain single-use plastic items.

Replacing plastic with other materials can lead to new challenges, both as regards food waste, the climate and potential chemical hazards. We mapped several types of products to learn more about alternative materials.

We studied whether selected cardboard and paper materials contained organic fluorine compounds and found several products that did. These compounds create a grease- and water-repellent surface, but also have negative health and environmental effects. Fluorine compounds in food packaging are not currently prohibited, but some will be with effect from 2020. Based on the upcoming ban on PFOA in consumer products and EFSA’s new assessment, we recommended that organic fluorine compounds not be used in food packaging.

We also found that some products are incorrectly marketed as alternatives to plastic, for example bamboo, which contained melamine. Melamine is plastic, and these products are therefore made from a plastic material that can release melamine and formaldehyde into the food. We will analyse melamine products on the Norwegian market in 2019.

**Priorities for the time ahead**

Sufficient knowledge is important to ensure good management. We need more knowledge about substances in food that could represent a health risk. We have identified a need for more strategic and long-term work on new marine species, which will be followed up next year. We will use the assessment and ranking of substances commissioned from VKM to plan our monitoring programmes for 2020.

We will contribute to the enterprises having functional internal control that, among other things, ensures control of *Listeria* in the products. Based on experience from supervisory activities and incidents in the EU, we
are increasing our guidance and supervisory efforts targeting salmon producers’ procedures for controlling *Listeria*.

Because more food-borne outbreaks are caused by ready-to-eat foods of plant origin, we will control the hygiene conditions and traceability of such foods.

We will follow up EFSA’s risk assessment of dioxins and dioxin-like PCBs with measures adapted to Norwegian conditions. We have also commissioned a new benefit-risk assessment of fish in the Norwegian diet from VKM.

We will follow up enterprises that sell and produce new products to provide guidance on the regulatory requirements and responsibility for ensuring safe food.

Many food supplements contain plants and plant extracts that may represent a risk. This is not specifically regulated. We will find out how best to deal with this risk in cooperation with the other Nordic countries.

The distinction between food supplements and pharmaceuticals is unclear. In cooperation with the Norwegian Medicines Agency, we will improve our management of this grey area and clarify the division of responsibility between the NFSA and the Norwegian Medicines Agency.

The Ministry of Health and Care Services tasked us with studying and recommending concrete measures to protect children and young people against adverse health effects resulting from a high intake of energy drinks. We will receive a risk assessment on this topic from VKM in 2019 and will stipulate concrete measures based on this.

**Drinking water**

*Having a reliable and safe water supply is critical to society, both as regards public safety and public health. The quality of our drinking water is good and few people become ill as a result of ingesting tap water, but old distribution networks with leakages and inadequate supply security pose a challenge.*

**Status**

Drinking water is fundamental to our health and our most important nutrient. Drinking water must not contain harmful substances or microorganisms such as bacteria, parasites, viruses or fungi. In addition, the water should be clear and without any distinctive smell, taste or colour.

We take it for granted that our tap water is clean and safe, and that is the case for most people. More than 90% of the population are connected to waterworks that provide safe water, and few people become ill as a result of drinking water. Most people’s drinking water is of a satisfactory quality measured by selected parameters, as shown below.
Goals

- Everyone shall have access to safe drinking water in sufficient quantities.
- Drinking water shall not contain chemical substances or infective agents in quantities hazardous to health.

Results

*The supply security must be safeguarded with contingency plans and back-up solutions*

Our society is dependent on having access to water at all times, including in the event of undesirable incidents such as extreme weather conditions, sabotage or faults in the waterworks’ electronic management systems. The municipalities and the waterworks owners are responsible for ensuring a secure supply of safe drinking water in sufficient quantities under various conditions.

We have prioritised following up water supply security in recent years, and will continue to do so for many years to come. We have been particularly active in relation to waterworks owners to emphasise how important it is to ensure supply security, continuity planning and functioning contingency plans.

If the water supply should fail, the waterworks must have backup solutions. Our survey shows that many waterworks only have access to backup water supplies for a short period, and that they cannot supply all their consumers during this period. In 2017, we prepared an action plan for supply security. In 2018, we mapped the status of supply security for all waterworks systems that deliver drinking water to more than 1,000 people. We will follow up the waterworks to ensure that all of them have satisfactory supply security.

A hot and dry summer in Southern Norway

The summer of 2018 was the hottest and driest summer in Southern Norway since 1947. This lowered the groundwater level, which in turn limited the water supply capacity. Some of the smaller drinking water wells were almost emptied, and the fire service had to help to provide enough water.

During long dry periods, the consumers’ water consumption increases. For example, a sprinkler uses 1,000 litres of water per hour, which is nearly five times more than the daily consumption for one person. Many waterworks had supply problems and imposed restrictions on water consumption.

Several water supply systems depend on the gas CO₂ for water treatment in order to be able to supply sufficient quantities of safe drinking water. This summer, there was a lack of CO₂ in Europe. The reason was production problems at one of the few production facilities, and a high demand for drinking water and carbonated beverages as a result of the heat.

This further tested the water supply systems’ supply security and contingency plans.
The water distribution network is still old and poorly maintained

Many municipalities have made considerable efforts to improve the situation, but this has still not been enough to stop the deterioration. Restoring the water distribution network to an acceptable condition will be an expensive and time-consuming business. The maintenance backlog in the distribution network is estimated to around NOK 110 billion, which accounts for about 20% of its total value. In the period 2015–2017, the renewal rate was between 0.6% and 0.7% per year. With a replacement rate this low, there is a negative development trend which means that the problems of the old water distribution system will continue to grow. The infrastructure becomes more and more vulnerable to influences such as extreme weather conditions.

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The poor condition of the water distribution network was confirmed already in the big control project in 2012. There has been some progress in maintenance and renewal since then, but the annual reporting from the waterworks owners nevertheless show that the work is not progressing quickly enough.

In recent years, the average leakage from the water distribution network in Norway has been around 30%. This represents an environmental and financial loss. Normally, the water pressure inside the pipes will ensure that it is only possible for water to leak out, and not for contaminated water to enter the pipes. The situation changes, however, when the pressure decreases, for example due to a water pipe bursting or faults in a data management system. If the pressure disappears, contaminated water can enter the pipe and make the water unsafe.

Norway has undertaken to comply with the WHO/UNECE Protocol on Water and Health. This protocol sets out binding objectives for improving drinking water quality. Norway has emphasised the quality of the water distribution network as one of its points for improvement. Norway has also stipulated a national goal for less than 25% leakage by 2020. This goal will not be met with the current repair rate. In the supervision of the waterworks’ distribution network, we instructed several waterworks to carry out repairs.

Drinking water must be safeguarded at all stages

Municipalities, county authorities and the central authorities must take account of drinking water in their land use planning. In 2018, we published a thematic guide to the Planning and Building Act concerning drinking water considerations in public planning work. This clarifies the responsibility for ensuring that municipalities take sufficient account of drinking water in their general activities and in connection with the planning of new projects.

We submitted many consultation statements in ongoing planning cases where drinking water had not been sufficiently considered, and in a few of the cases, we used our right to object.

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Drinking water considerations require an overview of the water distribution systems. Big waterworks that produce more than 10 m$^2$ drinking water per day are registered in our systems. From 1 July 2018, it became mandatory for all water distribution systems to register themselves and their coordinates in the NFSA’s forms service. At the turn of the year, almost 4,000 small water distribution systems had been registered. These are waterworks we did not previously have a good overview of. We will make the information about these waterworks available to the municipalities and county authorities.

The NFSA is working with several other agencies on the Water Regulations to achieve and retain good environmental status of Norway’s water bodies. In the drinking water area, the goal defined in the Water Regulations is to reduce the need for purification when producing drinking water. The measures described in this section exemplify how the NFSA works to ensure good environmental status of the water bodies.

**UV system operations must improve**

Many water distribution systems use UV lamps to disinfect drinking water. For the UV system to work, it is important to have good operating procedures in place and comply with the procedures. A dirty UV lamp may not shine brightly enough to remove the intended microorganisms.

We inspected the UV systems at around 1,000 water distribution systems, and found nonconformities in nearly half of them. Most violations of regulations were a result of inadequate competence in the persons responsible, or of operating and maintenance procedures not being in place or not being not complied with.

**Priorities for the time ahead**

We will continue our long-term work to improve supply security. We will also plan supervisory activities targeting distribution networks from 2020. The waterworks owners will then have had several years to remedy the findings made by the distribution network project in 2012. We will particularly focus on whether the waterworks owners have a plan for maintenance and renewal of the water distribution network.

The Drinking Water Regulations set out stringent requirements for waterworks owners’ competence. They must be familiar with the hazards that could threaten the production of safe drinking water in sufficient quantities, and adapt their work to face any challenges. In 2019, we will look into the waterworks owners’ sampling plans, and whether they comply with regulatory requirements and address the hazards relevant to the area.
PROMOTE HEALTHY PLANTS, LAND ANIMALS AND FISH

Promoting healthy plants, fish and animals is an important part of the NFSA's social mission. Land animals and fish feed, by-products, seeds and seed potatoes are also discussed here.

Plant health

*Plant health in Norway is good compared with the situation in other European countries, but growing imports increase the risk of new serious plant pests being introduced that threaten the health of Norwegian plants. In 2018 as in previous years new plant pests were introduced through import.*

Status

Plant health is assessed on the basis of absence of plant pests such as viruses, bacteria, insects, mites, fungi and nematodes. We carry out annual monitoring\(^6\) and mapping of prioritised pests.

Of the around 160 serious pests on EPPO's A2 list, 18 are present in Norway. Of these 18, 13 are actively combatted, whereas five are so widespread that it is not expedient to use public funds to combat them.

We still consider Norwegian plant health to be good, but are concerned about the increasing number of new plant pests. The total volume of plant imports is increasing and there is strong pressure to make the goods available for sale quickly. Many new importers lack sufficient knowledge of the risk that plant pests represent. New and serious plant pests are introduced to the southern parts of Europe and spread north to countries from which Norway import plants.

Goals

- No new plant pests shall become established in Norway.
- Already established serious plant pests shall not be allowed to spread.

Results

*More outbreaks of new pests*

Woolly aphids can attack all parts of a tree and lead to major crops losses in fruit production. In the past three years, woolly aphids have been detected in apple trees in important fruit-growing areas in the counties of Hordaland, Sogn og Fjordane, Telemark, Vestfold, Buskerud and Akershus. Findings at six new locations were confirmed in 2018. The findings were made both in newly planted imported trees and older ‘Norwegian’ trees. We therefore assume that woolly aphids may be more widespread than the findings indicate.

*Thrips setosus*, an insect that can do damage to many types of greenhouse plants, was detected in Norway for the first time. It was detected in connection with our mapping of three other thrips species in flower production in greenhouses where production was based on imported plant matter. We mainly studied hydrangea, but also other host plants. The findings were made in eight garden centres. They were instructed to combat the infection before the plants could be sold.

In the past five years, we have carried out an annual national mapping of the bacterium *Xanthomonas fragariae* in strawberry production. For the past two years, another four serious plant pests which have not previously been detected in Norway were included in the mapping. We suspect that these plant pests have arrived through imports, and that they can be more widespread than what we have detected so far. It is therefore important that the strawberry industry take action to prevent further introduction and spread of infection.

The pest *Tuta absoluta* (South American tomato moth) was first detected in the Jæren area in 2017. It was decided not to follow up this finding with official measures. We therefore do not know whether this pest has spread further or caused damage.

\(^{6}\) Table 6 in Appendix 1 contains an overview of these pests.

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**European and Mediterranean Plant Protection Organization (EPPO)**

EPPO has 52 member countries in Europe and the Mediterranean region. EPPO’s objectives are to protect plant health in the region, develop international standards for the prevention of introduction and spread of plant pests, and promote safe and effective control measures. EPPO’s A2 list contains serious plant pests in the region that EPPO recommends that member countries take action to regulate and combat. The list is revised annually.
**Pests can be introduced through import**

The risk of introducing new infections to Norway increased when it became permitted to import production trees of apple and pear in 2015. We have reviewed our follow-up of the fruit growers and found it most expedient to aim the official measures at enterprises that produce plants to sell them for further cultivation.

Our supervision shows that many importers still lack expertise on plant health and do not carry out the necessary risk assessments or check imported consignments. We have therefore cooperated with the Norwegian Institute of Bioeconomy Research on training, in addition to improving the information provided on our website.

We have started mapping online sales of plants and seeds. Private individuals without any knowledge of the plant health regulations can easily order plants from all over the world, and we are often not notified of such imports. This makes it difficult to control such imported consignments, and we see a great need for follow-up in the form of information, among other things.

**Pests can be spread via soil**

Plants can spread between countries via wood packaging material used in international trade. Supervisory activities showed that for more than half of the consignments subject to control, it could not be documented that the packaging had undergone the required heat or gas treatment, meaning that they represented a risk of new pests entering Norway.

We will continue to prioritise work to combat pests that can threaten forests and green environments. Outbreaks of new pests are regularly reported in countries which export plants to Norway. We will therefore continue monitoring pests that can be introduced through the soil of imported gardens plants, and will test for Asian longhorned beetle (*Anoplophora* spp.).

**Pests can be spread via soil**

We detected white rot of onion in onion sets for the first time. This is a rot fungus with a sclerotium that can stay alive in soil for more than 20 years and can lead to considerable losses in onion production. To prevent the spread of infection from onion sets or soil from the infected production site, all onion sets must be destroyed, and onion sets cannot be grown at the location in question for a period of 25 years.

Analyses of soil that comes with imported plants for gardens detected several *Phytophthora* species. These are fungi-like organisms, and many species have been found to be capable of causing serious damage in forests. None of the species detected so far are regulated in the plant health regulations. We nevertheless want to carry out further mapping to learn more about the risk situation.

Major construction work is going on in many places. Construction work can spread soil-borne pests and weeds. It is therefore important to know the infection status before moving topsoil. As a result of the contractors’ sampling, potato cyst nematodes were detected in several new locations in 2018.

**Little infection of fireblight**

The dry and hot summer in Southern Norway resulted in a record-low fireblight spread. Never before have so few sick plants been observed, including in areas where fireblight is well established. Nor was the disease found in any new municipalities.

Some measures had to be taken in Sunnmøre, Hordaland and Rogaland, and a few in Vest-Agder, but they were considerable less extensive than in previous years. We are revising the strategy for combating fireblight and the regulations that apply to this pest and will draw a conclusion in 2019.

**Priorities for the time ahead**

The EU is modernising its plant health regulations. Since plant health is not covered by the EEA Agreement, Norway is not participating in this work. The Norwegian regulations seem to harmonise less and less with that of the countries with which Norway trades the most. This is a challenge both to the producers and the authorities. The risk situation is also changing. The plant health regulations must be modernised and simplified, both out of consideration for the industry and to optimise our own use of resources. We will therefore review, assess and, if relevant, propose amendments to the regulations.

We have not mapped the plant health status of potatoes for human consumption in recent years, and will therefore be starting a new mapping programme. The programme will initially include ring rot, potato brown rot and the root-knot nematodes *Meloidogyne chitwoodii* and *M. fallax*. Ring rot, which has been mapped...
Repeatedly between 1998 and 2015, has been detected in Norway, whereas the other three have never been found.

Several exporting countries, including the Netherlands from which we import many plants, are now introducing electronic phytosanitary certificates. If we could start using such certificates in Norway, it would make the importers’ work easier. At the same time, it will give a better overview of imports and make it easier to carry out risk-based control.

Seeds and seed potatoes

Although the extreme drought had a negative impact on seed corn crops, some of the seed crops had high yields. Seed potato sales were high and were not affected by the drought. Increased online sales, including of seeds, pose new challenges and will require more attention in the time ahead.

Status

We supervise that seeds and seed potatoes are produced and sold in accordance with regulations. Seeds are a primary and basic growth factor, and their quality should form the basis for an even and well-developed growth.

Despite the extreme drought this summer, the grass seed level has been normal, and the red clover seed crops were relatively good. Overall, however, the seed corn crops were far smaller than the average for the past ten years.

Thanks to irrigation, the seed potato crops were big. 2018 was the third year in a row to see record sales of certified seed potatoes.

Goals

- Seeds and seed potatoes shall be healthy and of good quality and contribute to the preservation and sustainable use of plant genetic resources.
- Seeds and seed potatoes shall be adapted to Norwegian conditions.

Results

We certify seeds and seed potatoes

In the 2017–2018 season, we certified around 81 per cent of the total amount of propagating material from barley, oat and wheat sold. The remaining need for seed corn was met through the emergency seed bank, through import and by granting dispensations for the sale of seed corn that did not meet the germination capacity requirement.

In order to have a sufficient supply of seed corn adapted to Norwegian conditions, we allowed seed corn to be harvested and certified from a larger area than planned. Therefore, there are more certified seed corn of suitable types available in 2019 than would otherwise have been the case.

We approve plant varieties

We received 21 applications for approval of new plant varieties to be included in the Norwegian official list of varieties. The process from submission of an application to approval takes at least three years. For certain meadow plant varieties, it can take up to ten years. The variety must be found to be distinct from other varieties, uniform and stable. Cereal grain and meadow plant varieties are also tested in different locations to see if they are suitable and have better qualities than the varieties already included on the Norwegian official list of varieties. In 2018, we approved nine new plant varieties: one oat variety, one spring wheat variety, one winter wheat variety, two potato varieties, one white clover variety, and two meadow fescue varieties.

The NFSA is also the secretariat for the Plant Variety Board, which is the authority that grants plant breeders’ rights for plant varieties. One garden pea variety, which was originally produced through crossbreeding in the 1920s, was approved as a conservation variety. A total of eleven varieties were granted plant breeders’ rights in 2018.

Undesirable plant species in imported seeds and feed

We continued the mapping of seeds from undesirable plant species such as cockspur grass, wild oats, ragweed and hemp in imported seeds and feed. None of them were found in imported seeds. Germinable wild oats and
cockspur grass were found in 23% of the consignments of bird feed for wild birds, and 18% of the samples contained germinable hemp. Ragweed seeds were also detected in some of the samples.

Priorities for the time ahead
Increased online sales of seeds and a great variety of players with varying levels of expertise make supervision more difficult. Also, new products that include seeds as a small part of the product keep appearing on the market. Most of this new activity targets the non-commercial market.

Since the seed regulations are not sufficiently adapted to the variety of players and products, we are considering amendments to regulate Norwegian seed production and commercial cultivation. The amendments will be followed up with adapted guidance. At the same time, we will propose a zero-tolerance policy for cockspur grass in seeds produced in Norway after finding that this weed has spread to more and more new areas in recent years.

We will continue the monitoring and mapping of seeds from undesirable plant species in imported products.

Feed for land animals and farmed fish

Safe feed is a prerequisite for safe food and healthy animals. The feed is the first link in the food chain, and if feed has the wrong contents, that can have ripple effects throughout the entire value chain. The feed enterprises generally have good management and control measures in place.

Status
Serious animal diseases and plant pests that do not exist in Norway occur both in and outside Europe. Therefore, importing feed from these countries is a risk factor in relation to Norway's good plant and animal health.

When we say that the feed is safe, we mean that it does not contain infective agents and pests or contaminants and additives in excess of permitted limit values. We monitor the situation and help to maintain the good status.

Goals
- Feed shall be safe and contribute to safe food and healthy animals.
- The feed shall meet the nutritional needs of the animals and fish and contribute to good welfare.

Results

Safe feed for land animals and fish
We monitor and map feed for land animals and fish in order to keep abreast of the situation and document the status. The knowledge we obtain from these activities also forms the basis for regulatory development and planning of supervisory activities.

The analyses of feed for land animals show that the enterprises have good control of the content of additives, contaminants and the hygienic quality of the feed. No banned animal proteins were detected in ruminant feed, and the content of heavy metals did not exceed the limit values.

Good fish welfare requires their nutritional needs to be covered, and we therefore prioritised analyses of nutrients in fish feed. The results show that the levels of nutrients were within the concentration limits we have set for complete feedingstuffs.

Since ethoxyquin is being phased out as an additive, we prioritised analyses of ethoxyquin and ethoxyquin dimer in complete feedingstuffs, fishmeal and feed materials of plant origin. The results show that the substance is still in use.

Increased use of feed materials of plant origin to replace fishmeal has reduced the levels of environmental toxins, but the analyses detected substances resulting from feed materials of plant origin. Levels of undesirable substances such as dioxins, PCBs and heavy metals are on a par with our findings in recent years. Traces of pesticides and mycotoxins were also detected.
The supervisory activity level was on a par with earlier years, and we find no significant nonconformities. The results show that some parties must improve their cleaning and pest control procedures. The overall impression is nevertheless that the feed enterprises generally have good management and control measures in place.

**Dry summer, feed crisis and increased import of coarse fodder**

When it became clear that the domestic production would be greatly reduced in parts of the country, we obtained risk assessments from the Norwegian Veterinary Institute and the Norwegian Institute of Bioeconomy Research. We gave priority to guidance and supervision of the import and sale of coarse fodder. In the past nine months, around 450 new enterprises engaged in feedingstuffs import were registered. We contacted the newly registered enterprises and sent them information about their responsibilities and the important requirements that apply to importers.

Together with the Norwegian Farmers' Union, the livestock industry, the feed industry and the Norwegian Veterinary Institute, we prepared a guide and a checklist for importers, sellers and users of imported coarse fodder. We also cooperated with Norwegian Customs on a border control campaign targeting the import of hay and straw at the Swedish border. Regulations were also adopted that stipulated new additional requirements for imported hay and straw intended for animal feed from countries outside the EU.

**New feed materials**

New feed materials are introduced due to the shortage of protein feed materials, particularly for food-producing animals. These feed materials come from the food and biofuel industries, new plant species, algae and new marine species. The production of insects for use in feed became permitted, as well as using processed insect proteins in feed for farmed fish. We also approved the use of processed insect protein for several fish feed producers.

**Plans for the future**

We will continue our mapping and monitoring, and focus our supervisory activities on feed enterprises that must be approved pursuant to the feed hygiene regulations or the TSE Regulation. We will give priority to providing information and guidance to ensure that they are familiar with, understand and comply with the regulations, and that they meet the conditions for approval.

Since imported coarse fodder will still be exempt from customs for part of 2019, imports will probably continue to be higher than in previous years. We will continue mapping possible infectious agents in such feed. We will also continue to provide guidance to and supervise primary producers that have imported coarse fodder for their own holdings.

We will consider possibilities for facilitating the utilisation of new feed materials. Certain new situations are not covered by the current regulatory framework, and we will consider possible amendments. The work will take place in the EU and nationally.

**Land animal health**

*Norway has healthy animals and few cases of infectious diseases. This is very valuable, but it is not a given that this situation will continue.*

**Status**

Norway has good animal health compared with other European countries and the rest of the world. We cannot take for granted that this will continue to be the case in future. New and exotic agents are detected, and not all keepers of animals have the same level of knowledge about infection prevention.

Updated knowledge is required to prevent infection in holdings. Animal owners must know which types of infection constitute a risk, and how to protect their animals against such infection. Owners of commercial holdings must have updated knowledge of infection in animals and they must be aware of the connection between animal health, animal welfare and public health.

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7 Eradication of transmissible spongiform encephalopathies
Norway has been spared major disease outbreaks, with the exception of chronic wasting disease and *Salmonella* outbreaks in horses and sheep. Cases of ringworm were also detected in cattle.

The figure below also shows that there has been a reduction in diseases subject to a reporting duty among poultry and chickens kept by private individuals on a non-commercial basis. Only three cases were detected, compared to 42 cases the previous year.

**Figure 10: Outbreaks and cases of serious infectious diseases in domesticated and wild land animals.**
*Source: The Norwegian Veterinary Institute*

**Goals**
- No new animal diseases shall become established in Norway.
- Contingency plans for animal health shall be up to date.
- We shall have an overview of the prevalence of chronic wasting disease, and the spread of the disease shall be stopped. The infected wild reindeer population in Nordfjella zone 1 shall have been eradicated and the area left fallow with a view to reestablishment.

**Results**

*We combat chronic wasting disease*

Combating chronic wasting disease (CWD) is a long-term effort comprising several phases. This work has been one of our main priorities in 2018. A total of 19 cases of classic CWD were detected in wild reindeer, and the whole wild reindeer population in Nordfjella zone 1 was eradicated in an effort to combat the disease. All the detected cases were in this area, which has now been left fallow.

We will continue our mapping to obtain an overview of the potential prevalence and with a view to being able to declare that the area is disease-free. In 2018, we collected 33,000 samples from all over Norway. We obtained two new risk assessments from the Norwegian Scientific Committee for Food and Environment (VKM) in order to have a basis for making necessary and sufficient measures to limit the spread of infection. Nordfjella zone 2 must be declared free of infection before wild reindeer can be re-established in zone 1.

*Salmonella outbreaks in horses*

This summer, we dealt with an outbreak of *Salmonella* in horses, which was also transferred to production animals. This as a widespread outbreak that lasted for a long time and flared up again in the autumn.
This shows that it can be demanding to prevent infection in the horse industry. One of the reasons for this is that horses are frequently moved and have frequent and extensive contact with other horses. In addition, not all horse owners have the same awareness of the importance of infection control. We will follow this up in the time ahead.

African swine fever
African swine fever is coming closer all the time. In cooperation with the industry associations Animalia and Norsvin and the Norwegian Veterinary Institute, we prepared infection control advice for different target groups. We also updated our website with information targeting, among other things, hunters who hunt wild boars abroad. The work is not concluded and will continue next year.

New Animal Health Law
We have participated actively in the work on the EU’s new Animal Health Law. We have safeguarded Norway’s interests by having as many land animal diseases as possible listed in the Regulation. This will ensure that the EU follows up these diseases, and it allows us to implement measures in case of an outbreak.

One important factor in the new animal health regulation is that animal owners are given more responsibility when it comes to preventing diseases and infection in their own holdings. This was upheld in the new Animal Health Law and the new national animal health regulations.

Traceability
The quality of the data in the livestock register remains unsatisfactory. The backlog of registration of incidents is too great. Although we have facilitated good procedures for supervisory visits, the reporting speed is not satisfactory. The main reason for this is that the industry does not report on time. We will follow this up in the time ahead.

Import of pets
For many years, we have made information, guidance and control in relation to the import of pets a high priority. Imported dogs can carry infective agents and parasites that do not exist in Norway.

We have changed our administrative practice regarding the import of street dogs, and had a wide-ranging information campaign about the change. The number of street dogs arriving in Norway has been reduced.

Priorities for the time ahead
Among other things, the implementation of a new Animal Health Law will include work on a national animal health strategy. We will prepare national regulations that use our national freedom of action to safeguard the good animal health status in Norway.

We will also continue our cooperation with the industry and increase their knowledge of expedient infection control in livestock holdings in order to ensure that this is followed up at as many farms as possible.

We will prepare contingency plans for new animal diseases such as African swine fever and foot and mouth disease to be well prepared in case of suspected disease outbreaks. Our national contingency exercise in 2019 will focus on foot and mouth disease.

Both the NFSA and the pig farming industry are concerned that the Norwegian wild boar population could infect domestic pigs with diseases, especially African swine fever. We have commissioned a risk assessment from VKM together with the Norwegian Environment Agency. The Norwegian Environment Agency will draw up an action plan against wild boar in cooperation with the NFSA in the coming year. We will also collect samples from wild boar to monitor them for several diseases.

Tracing in the food chain is based on all animals being assigned an individual number for identification. We will look into a new system for identifiers in livestock production that is independent of county and municipality numbers. The report ‘Kartlegging av registre i jordbruket’ (‘Mapping of registers in agriculture’ – in Norwegian only) forms the basis for this work. We plan to implement this from 1 January 2020 when the regional reform enters into force.

New Animal Health Law
The new Animal Health Law has been adopted as a regulation and will repeal almost 40 previous acts of Community law. The regulation covers wild and domesticated animals, animal products and germinal products. It covers both terrestrial and aquatic animals.

Because of the good land animal health in Norway, the Norwegian authorities have worked to have as many terrestrial animal diseases as possible listed in the Regulation. As a result of our work, bovine viral diarrhoea (BVD), porcine reproductive and respiratory syndrome (PRRS) and paratuberculosis (PT) will now be included in the EU’s administrative regime.
Fish health

Norway has one of the world’s biggest salmon farming industries. Sustainable growth depends on good fish health. There was a slight overall improvement in 2018, but challenges still remain to be solved. The use of pharmaceuticals to combat salmon lice is still reduced and has partly been replaced by non-pharmacological methods. No new cases of Gyrodactylus salaris were detected.

Status

The aquaculture industry is important to Norway. There are just over 900 marine grower facilities, which produced 1.3 million tonnes of farmed salmon. The first-hand value amounted to approximately NOK 64.7 billion. Good fish health and welfare are important in order for the industry to be sustainable.

The industry is facing challenges when it comes to fish health. The parasite salmon lice and the viral diseases pancreas disease (PD) and infectious salmon anaemia (ISA) are particularly widespread.

The fish health challenges are complex. Disease in itself stresses the fish, and it also weakens the fish so that it becomes less resilient. We need better disease prevention and less handling – especially of sick and weakened fish – in order to improve fish health.

Goals

- We shall have good fish health.
- The use of pharmaceuticals shall be responsible.
- River systems shall be free of Gyrodactylus salaris.

Results

We have mainly focused our efforts on preventing the spread of infection and combatting diseases in the aquaculture industry.

Salmon lice and other diseases remain a challenge

Overall, the salmon lice level in aquaculture facilities was somewhat lower than in the period 2012–2017. There are great variations, and production areas 3, 4 and 6 have the highest prevalence of salmon lice.

Fewer PD cases were detected, although this disease is still found in salmonids in the endemic area (in the PD zone). The number of ISA cases is stable. There were individual outbreaks across large parts of Norway, with Hordaland having the highest number. The prevalence and development of PD and ISA in the period 2011–2018 are shown below.

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9 Fish welfare is discussed in a separate chapter on page 32
10 See The Health Situation in Norwegian Aquaculture 2018 pp. 81–86 for details on the prevalence of salmon lice in the different production areas.
The non-reportable viral diseases cardiomyopathy syndrome (CMS) and heart and skeletal muscle inflammation (HSMI) show a stable and high number of outbreaks. These diseases are not subject to a notification duty. They can weaken the fish’s state of health and lead to increased mortality in connection with e.g. delousing. According to the Norwegian Veterinary Institute, CMS has passed PD as the number one health challenge after salmon lice (The Health Situation in Norwegian Aquaculture 2018).

Bacterial diseases also cause health challenges. Yersiniosis was on the rise in Central Norway in the past, but the number of cases dropped from 54 in 2017 to 31 in 2018. It therefore seems to be better controlled by vaccines. Flavobacteriosis was detected at four facilities. Flavobacteriosis is a bacterial disease found in rainbow trout in fresh and brackish water. Amoebic gill disease (AGD) is also a challenge, particularly in Southern and Central Norway. It causes the fish to stop eating, resulting in slow growth, and the disease has a high mortality rate.

Fish that die because of disease outbreaks must be handled correctly to prevent infection. Hired boats that collect dead fish represent a risk of infection, since they often travel from location to location without the fish being ground and ensiled. This practice worries us and may be in violation of the Food Act’s requirement for due care.

Good zones are required to maintain a low infection pressure when many fish are gathered in one place. Good zones are lacking in many areas, especially in the counties of Hordaland and Rogaland, which have many locations, few ‘firebreaks’ and a very diverse industry. These factors make it more difficult to prevent and combat disease.

Much is invested in developing new technology and new production methods. New production methods can give rise to new challenges, however. For example, pathogenic organisms can be more problematic in recirculating aquaculture systems (RAS) with seawater than in conventional facilities. This highlights the importance of keeping an overview of risk factors and of having measures in place to prevent and limit infection.

Duty of notification, general security measures and plan to combat new diseases
We are working to get the industry to take more responsibility for improving the disease situation by means of internal control systems through which the industry players themselves ensure good procedures and continuous improvement.

For some diseases, the virus may be released already before the disease is detected or fish start to die. It is therefore important to have general biosecurity measures in place to prevent the spread of infection.

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Experience shows that moving fish placed in sea cages increases the likelihood of diseases spreading. We are therefore working to limit the moving of fish in sea cages.

A notification duty applies in cases of increased fish mortality and suspicion of reportable diseases. We have prepared a guide that contains a simple explanation of the duty to notify. Complying with the notification duty is crucial to limiting disease outbreaks, and it is important to ensure that the industry is aware of this.

**Combating disease**

Following up and handling the disease situation in aquaculture was one of the NFSA’s main priorities.

Farmed fish with infectious disease must be quickly removed from the aquaculture facility, even if it leads to a financial loss for the fish farmer. We see a positive development where more fish farmers slaughter fish at their own initiative. We have adopted a plan to combat new diseases and stay prepared.

We have drawn up a draft for new Salmon Lice Regulations. The new regulations are simpler and technology neutral. We have proposed that the Salmon Lice Regulations’ legal basis should be the Animal Welfare Act, in addition to the Food Act. The regulations have been submitted to the Ministry to be cleared for consultation.

Most of the pharmaceuticals used in the aquaculture industry are used to combat salmon lice. A control campaign targeting pharmaceuticals in the aquaculture industry was carried out in the period 2015–2017. The results showed that delousing agents were used in other ways than those approved by the Norwegian Medicines Agency, and that they were used on weakened fish. The campaign raised awareness and improved practices relating to the correct use of pharmaceuticals. From 2016 to 2017, the number of prescriptions was reduced by 61%. In 2018, the use of pharmaceuticals was reduced by a further 38%.

In connection with ISA outbreaks and certain PD outbreaks, we implemented infection reduction measures such as containment areas with a protection zone and surveillance zone. We established 22 containment areas for ISA, which is three more than the previous year. This included establishing, changing and lifting zones with disease outbreaks.

We adopted three containment area regulations for PD, one less than the previous year. We have also proposed amendments to the PD regulations and the transport regulations and drawn up a plan to combat PD. Once the regulations and plan have been adopted, we will follow them up through dialogue, supervision and supervisory activities.

No new cases of *Gyrodactylus salaris* were detected. Eleven rivers are in the process of being declared free of the parasite, while it is still found in seven rivers in the Driva and Drammen regions. Since early detection of infection and recurrence is important, we gave priority to monitoring and collecting samples from smolt facilities, cultivation facilities and rivers. We cooperate with relevant players on providing information and guidance to river owners and salmon anglers to prevent infection from spreading to new rivers and river systems.

The work to combat and control *G. salaris* is challenging, since our three neighbouring countries all have a different infection status. In addition, our Atlantic salmon is less resistant to the parasite. We are therefore working internationally to prevent infection from Russia. We have entered into an agreement with regional Russian veterinary authorities in Murmansk Oblast on monitoring, mapping and eradication.

Crayfish plague is regulated through seven local regulations. We monitor and collect samples to find out if the disease has spread in areas where crayfish plague has been detected. With the exception of the Mossevassdraget river system, no new cases were detected. When infection was detected on the Swedish side of the border, the crayfish population on the Norwegian side was reduced to limit the outbreak.

Priorities for the time ahead

We will continue our work on ensuring that the industry takes more responsibility for improving the disease situation. We will do this by following up that they have satisfactory internal control, among other things through supervisory activities relating to groups of companies. We will reject applications for establishment and expansion at location level if the internal control system is inadequate.

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*Gyrodactylus salaris* is a parasite that attaches itself to the skin of salmon fry. It lives and breeds in fresh and brackish water, but quickly dies in ordinary salt water. The parasite can lead to the loss of the entire wild salmon population of infected rivers.
We have started the work of contributing to a location structure that limits infection from surrounding facilities. This also helps to prevent new diseases from gaining a foothold. To establish a good structure, the fish farmers, knowledge support institutions and the government administration must cooperate closely. The fish farmers’ willingness and ability to cooperate is a success factor. This measure is a supplement to other infection prevention measures. A good dialogue with the industry on the challenges and opportunities is important to succeed.

We will give priority to the work on introducing the new Animal Health Law. One consequence of the law is that we must prepare a plan to combat ISA with equally restrictive measures as those used today. We will cooperate with the industry and the knowledge support institutions.

We will prioritise obtaining better data on which to base our analyses. This will require us to improve our own systems and we must also gain access to more of the industry’s production data. Only then will the government administration and knowledge support institutions have a better basis for analysing the situation and evaluating their own measures together with the industry. Better data will also contribute to more targeted and risk-based follow-up of the aquaculture industry.

We will continue our work to combat and control G. salaris. There is a political wish to import Vänern salmon from Sweden to the Trysilelva river. This could entail an increased risk of infection in Norway. We will investigate whether there are any measures that can limit potential infection from Sweden.

**Animal by-products**

Safe and correct use of animal by-products helps to increase the resources available for feed, fertilisers, energy and other technical purposes.

**Status**

Our supervisory activities show that plants that process animal by-products usually comply with regulations.

**Goals**

- Animal by-products shall be well-known, safe and contribute to the development of the Norwegian bioeconomy.
- Feed and fertilisers containing material of animal origin shall not spread infection to the food chain.

**Results**

We carried out supervisory activities in relation to animal by-products processing plants. 26 processing plants were controlled. The results were generally good and show that the plants comply with the rules.

We also checked the conditions pointed out by the EFTA Surveillance Authority (ESA) in its audit in 2017, especially inadequate validation of processing methods. We also found that the supervision of the processing of fish by-products on board vessels is inadequate and needs to be improved.

We have also improved the official list of animal by-product enterprises. The lists are a precondition for the industry’s work on traceability.

**Priorities for the time ahead**

Of the thirteen operator types, we will prioritise transporters, pet feed manufacturing facilities and traders. We will provide guidance and carry out supervisory activities.

We will also provide guidance and carry out supervisory activities in relation to the processing of fish by-products on board vessels, in aquaculture, capture-based aquaculture and live storage of fish.
PROMOTE ANIMAL WELFARE AND RESPECT FOR LAND ANIMALS AND FISH

Animal welfare is a social responsibility. Norway and the other Nordic countries were among the first in Europe to implement animal welfare legislation. As early as in 1842, the Norwegian General Civil Penal Code prohibited animal cruelty. The current Animal Welfare Act applies to both terrestrial and aquatic animals. Despite different living conditions, knowledge and assessments relating to animal welfare have great transfer value between species.

Land animal welfare

Land animal welfare is generally good, but there are some challenges. In 2018 as in previous years, we discovered violations of regulations. When we do, we find that most of the industry players cooperate well. The number of reports of concern is increasing, which shows that the population is concerned with animal welfare. Most of the reports concern pets.

Status

There is no one common or feasible method for measuring a society’s animal welfare status. However, there is consensus that biological functions, the possibility of living a natural life and having a suitable living environment are factors that are important to animal welfare.

Norway is in a good position to safeguard animal welfare. The attitudes to animals are generally good and we have good animal health. We have strict regulations, nationwide official control and wide-ranging powers. We have a good overview of animal owners and cooperate well with industry organisations.

Since our supervisory activities are risk-based, our supervisory data do not provide a representative picture of animal welfare in Norwegian animal holdings. When we compile the results from our follow-up of reports of concern, the need to use invasive sanctions against keepers of animals and the scope of serious neglect of animals, we see that the total number of serious violations of the regulations is low. We therefore believe that land animal welfare is mainly good, despite some challenges.

We publish the results of our ongoing supervision of land animal holdings three times a year, and also publish them in a special annual report on our animal welfare work (Mattilsynets arbeid med dyrevelferd – ‘The Norwegian Food Safety Authority’s animal welfare work’ – in Norwegian only, 2018).

Goals

- All animals in Norway shall have a good welfare situation.
- Serious neglect shall be avoided. Animal holdings where animals are poorly cared for shall achieve lasting improvement or be closed down.
- The mortality rate for reindeer and sheep grazing on outlying land shall be reduced to an acceptable level.

Results

Reports of concern are a sign of people’s involvement in animal welfare

Reports of concern are an important source of information about possible cases of poor animal welfare. The number of such reports is increasing, and we received 12,600 reports in the course of 2018. This shows that the public is concerned with animal welfare. Most of the reports concerned pets.
We had to prioritise which cases to follow up to ensure that we used our resources where they were most needed. Systematic prioritisation reduces the likelihood of overlooking animal holdings in crisis.

Irresponsible breeding of dogs is one of the issues that many people are concerned about. Although the Animal Welfare Act requires breeding to encourage characteristics which give robust animals which function well and have good health, there are no regulations that regulate the breeding of short-nosed dog breeds that are prone to breathing problems. The Norwegian Society for Protection of Animals has submitted reports of concern about specific holdings. We have followed this up through supervisory activities and maintain a dialogue with dog owners’ organisations.

**Increased efforts to improve the welfare of fattening pigs**

Based on a high prevalence of disease and injuries among fattening pigs delivered to slaughterhouses, we carried out a two-year control project targeting fattening pig producers in Rogaland county. The control project found that many fattening pig producers had a poor animal welfare situation. The livestock industry and slaughterhouses, which receive pigs, have followed up the results with several measures. We nevertheless still uncover serious nonconformities.

The industry organisation Animalia has subsequently prepared a welfare programme for fattening pigs which we have recognised as an industry standard. The industry does not want fattening pig production that violates the Animal Welfare Act to pay off. The programme enters into force at the turn of the year 2018/2019 and entails regular visits by a veterinarian, among other things. There are already similar programmes in place for broiler chicken and turkey production, and more programmes are being developed for other types of production.

When pigs bite each other’s tails, that is a possible indication that they are stressed and frustrated. The prevalence of tail wounds can therefore be used as an indicator of the holdings’ animal welfare. We started using tail wounds or short tails registered by the slaughterhouses as a welfare indicator at a national level. We follow up holdings with an abnormally high prevalence with supervisory activities.

Pigs with open tail wounds shall not be put on an animal transport vehicle. The number of tail wounds among animals received at the slaughterhouse was lower than two years earlier. This may indicate that our follow-up of transport of animals that are not fit to be transported is starting to take effect.

**Poultry welfare**

Welfare programmes for broiler chickens and broiler turkeys have been enshrined in regulations. It is positive that the industry contributes and takes responsibility for satisfactory animal welfare among production animals.

**More rapid closing down of animal holdings with consistently poor conditions**

Animal holdings with consistently poor animal welfare conditions inflict suffering on many animals for long periods of time. It is resource-intensive to supervise such holdings, and supervisory activities rarely have the desired effects. We have therefore started following up these animal holdings in a more systematic manner. The holdings must either demonstrate lasting improvement or be phased out more quickly. The figure below shows that we have used more stringent sanctions than before.
Formalised collaboration with the police is effective

We have signed a central collaboration agreement with the police, and so far, animal crime projects have been established in four of our regions. The projects have improved inter-agency collaboration.

The report from the pilot project in Trøndelag concluded that the formalised collaboration resulted in better reports to the police and improved investigation, to cases being given higher priority and to prosecutors requesting stricter sentences. The case processing times were also reduced. The number of animal owners reported to the police nearly doubled compared to 2017. Improved collaboration with the police will also have an effect in supervisory areas other than animal welfare.

Heavy losses of animals at pasture and limited freedom of action

At the national level, the loss of sheep grazing on outlying land has been significantly reduced in 2018. The number of sheep lost to predators is lower than it has been for many years. The number of sheep grazing on outlying land has not been reduced, and, generally speaking, this indicates that predators and sheep have now largely been separated in the outlying areas. Losses are still heavy in areas where this is not the case. In many areas, animals are lost every year, especially to wolves and bears.

As opposed to sheep, the loss of domesticated reindeer is increasing strongly and gives cause for concern. The loss of reindeer calves in the past season (2017/2018) was 44%.
The environmental authorities are responsible for the management of predators. We maintain a close dialogue with the local authorities and the affected farmers when there has been a predator attack, but we have little freedom of action when it comes to implementing measures to safeguard animal welfare in this area.

**Red deer farming in enclosures**

Around 100 enterprises are engaged in red deer farming. The regulations in place for livestock are only partly appropriate for this type of activity, since the animals are killed and slaughtered on site. So far, our expertise in relation to this type of animal holding is limited. The Norwegian Deer Farmers Association (Norsk hjortearvsforening) started the work of drawing up an industry standard for animal welfare and hygiene, and we have an ongoing dialogue with the organisation about this effort.

**Priorities for the time ahead**

We will work to achieve a common understanding of the regulatory requirements concerning animal welfare, and to ensure that it is shared by the industry players, including veterinarians, advisers and auditors working with the KLS quality management system for Norwegian agriculture. A common understanding of the regulatory framework and of what constitutes acceptable animal welfare could lower the threshold for reporting poor conditions, so that all of us can contribute to good animal welfare from our various roles and positions.

In future, the industry will play a bigger role in the work to improve animal welfare among production animals. Industry organisations can reach individual animal keepers in ways that are unavailable to us. We can help the industry by enshrining welfare programmes in regulations, cooperating with them on guidance and competence-raising measures and facilitating the industry’s compliance with new regulatory system requirements.

We look forward to the introduction of improved system support for more extensive registration of diseases in meat control12 (USR – Utvidet sjukdomsregistrering (more extensive disease registration')). This will give us a better basis for risk-based control of animal welfare among production animals, so that our overall efforts can be more effective.

**Fish welfare**

The mortality rate in the aquaculture industry has been somewhat reduced, but there are still significant welfare challenges. The combination of diseases and handling in connection with delousing of salmon leads to poor fish welfare. Delousing is the most important individual cause of poor welfare and high mortality, both for the salmon and for the cleaner fish used in the treatment.

**Status**

Fish welfare has been weakened and mortality is too high. One reason for this is the salmon lice treatment, which creates new welfare problems for the salmon and the cleaner fish alike.

Mortality is an important indicator for assessing fish health and fish welfare in aquaculture facilities. However, good fish welfare requires more than a low mortality rate. Animal welfare is also about the fish being well cared for, having its needs met and not feeling pain or fear.

The fish welfare challenges are complex. They are related to attitudes, knowledge and willingness to prioritise the fish’s needs, among other things. A desire for growth and development leads to new production methods being developed and new technology and methods being tested at the same time as large-scale production is ongoing.

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12 Forward-looking meat control see page 12
13 Fish health is discussed in a separate chapter on page 25
The industry and research environments are working to develop suitable welfare indicators, among other things through the project *Fishwell*.

**Goals**

- We shall have good fish health.
- The mortality rate in the aquaculture industry shall be reduced to an acceptable level.

**Results**

*Improvement, but mortality remains high*

Mortality was reduced compared with the two preceding years, but considerable amounts of fish still die in sea cages before they are ready for slaughter. As much as 53.1 million farmed salmon and 3.1 million rainbow trout were lost in 2018.¹⁴

![Mortality among farmed fish](image)

**Figure 15: Calculated pre-slaughter mortality in salmon as a percentage for the past three years. Source: The Norwegian Veterinary Institute**

Although the overall mortality rate was reduced somewhat, there is great variation between the counties.¹⁵ The Agder counties, which have a small aquaculture industry, had the lowest mortality rate. Hordaland county still has the highest mortality rate, although it was reduced from 25.4 to 20.2% from 2017 to 2018. The mortality rate increased in Nordland, Troms, Møre og Romsdal and Sogn og Fjordane, but decreased in the other counties.

It is worrying that mortality increased in Nordland and Troms. These are the counties where the most new permits for aquaculture establishments for marine growers were awarded, and increased growth is expected.¹⁶ We saw an especially clear connection between the mortality rate and a high infection pressure from both diseases and salmon lice in the facilities in Austevoll and the Hardangerfjord, which means that the fish must be handled frequently to keep the lice levels below the applicable lice limit.

We use mortality as one of several indicators when we assess the enterprises’ internal control and consider applications for expansion of fish farms. We will reject the application if there are shortcomings in the enterprise’s internal control.

*Delousing methods still cause welfare problems*

The industry is under strong pressure to keep the lice levels down. This has led to cases where new delousing methods have been introduced before they have been adequately tested.

We updated our information, reporting form and guidance to help to ensure that the documentation requirements for new methods are complied with. We also strengthened follow-up by establishing an expert group of inspectors from the coastal regions who coordinated, provided guidance and followed up the

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¹⁴ 87.2% dead fish, 6.6% destroyed, 6.0% ‘other’ and 0.02% escaped fish. Source: The Directorate of Fisheries

¹⁵ The report *The Health Situation in Norwegian Aquaculture 2018* from the Norwegian Veterinary Institute provides a more detailed overview.

¹⁶ Twenty new permits for aquaculture establishments for marine growers were awarded in Nordland and Troms.
supervisory activities. The expert group also served as a link to the experimental animal administration, which plays an important role when new methods are being developed.

Although the fish farmers have gained more experience and the methods have improved, there are still many cases of injury and death as a result of delousing. We received 1,036 reports of fish welfare incidents, compared with 936 the year before. Of these reports, 680 concerned delousing, and 629 concerned mechanical delousing.

Although the number of delousing treatments was reduced, the table below shows that the treatment level remained high.

<table>
<thead>
<tr>
<th>Type of delousing</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-pharmacological, all or some of the fish at a location</td>
<td>1,665</td>
<td>1,949</td>
</tr>
<tr>
<td>Non-pharmacological, all of the fish at a location</td>
<td>385</td>
<td>532</td>
</tr>
<tr>
<td>Non-pharmacological, some of the fish at a location</td>
<td>1,280</td>
<td>1,417</td>
</tr>
<tr>
<td>Pharmacological</td>
<td>1,133</td>
<td>739</td>
</tr>
<tr>
<td>Total number of delousing treatments (non-pharmacological and pharmacological)</td>
<td>2,798</td>
<td>2,688</td>
</tr>
</tbody>
</table>

Since the salmon lice often have decreased sensitivity or are resistant to most of the delousing agents, pharmacological treatments have been replaced by various non-pharmacological delousing methods. The use of such methods increased, and they are now the most commonly used treatment methods.

Non-pharmacological delousing methods include mechanical methods such as crowding, pumping, flushing, warm water and brushing. These methods lead to a deterioration in fish welfare, and are particularly challenging when the fish is sick or weakened by other infections.

Two thirds of all non-pharmacological treatments were thermal delousing, which is carried out using warm water. Research shows that the temperatures used are painful for the fish and can lead to bleeding in the brain or palate. We tasked the Norwegian Veterinary Institute and the Norwegian Institute of Marine Research with studying this, and the results will be ready next year. Once the results are available, the administrative follow-up will begin, which will also involve the Ministry, industry and other relevant social players.

Welfare problems for cleaner fish
Cleaner fish are becoming increasingly important in the fight against salmon lice. In 2017, 54.5 million cleaner fish were placed in the sea cages. In 2018, 41.6 million cleaner fish were farmed. In addition, a large number of wild-caught cleaner fish (wrasse) is used.

There is no requirement to report mortality rates and wastage for cleaner fish, and it is therefore uncertain how many of them survive a production cycle in the sea cages. Welfare and mortality challenges for cleaner fish are related to, among other things, handling when being placed in the cages and mechanical delousing.

We have carried out a control campaign intended to improve cleaner fish welfare by increasing knowledge and raising awareness of the regulations. We will also propose measures based on the findings made. The results will be available this spring, and will be communicated and followed up in close cooperation with the industry and the knowledge support institutions.

Water quality in RAS facilities
Water quality is a critical element in ensuring good fish welfare. It is demanding to control the water quality in recirculating aquaculture system (RAS) facilities with seawater.

In recent years, there have been several episodes with high mortality caused by water quality problems, and hydrogen sulphide has proven to be especially problematic in RAS facilities using seawater. We are following up this issue.

Live-stored cod
Live storage of fish is a term used to describe the practice of catching wild fish and keeping it in cages for up to 12 weeks. The method is used to increase the value of wild fish caught during

Cleaner fish
Cleaner fish is a collective term for species that eat lice that have attached to the farmed fish, such as lumpfish and wrasse. Cleaner fish have become so important in the fight against salmon lice that it is now Norway's second most farmed type of fish. There are major challenges associated with the health and welfare of cleaner fish.

RAS facilities
Onshore fish farms comprise water tanks on land. The water in the tanks must be replaced. This can be done using through-flow systems, where the water only goes through the tank once, or by recycling the water and using it several times, known as Recirculating Aquaculture Systems (RAS).
periods when availability is good and prices are relatively low. Around 6,000 tonnes of cod were stored live in 2018.\(^{17}\)

There is a political wish to extend the storage period of cod from 12 to 20 weeks. If the storage period is to be extended, it is important to put in place requirements to safeguard the cod’s health and welfare. We have cooperated with the Directorate of Fisheries to prepare criteria for such extension.

Priorities for the time ahead
The fish welfare challenges are complex. A desire for growth and the industry’s lice problems lead to the development of new production methods and new technology. These are often tested without sufficient documentation of how they affect fish welfare. We need new administrative measures to stimulate the industry to solve the welfare problems. Despite extensive efforts by the industry, equipment producers and research environments, available knowledge and data are insufficient for analysing and understanding the causal relationships.

Once the results of the Norwegian Veterinary Institute and the Norwegian Institute of Marine Research’s review of thermal delousing become available, we will start our administrative follow-up. We will also share and follow up the results of the cleaner fish campaign. Close cooperation with the industry and knowledge support institutions will be important.

The work on coordinated fallowing will be particularly important in areas with a high fish farm density and high disease rates with subsequent handling and mortality.

We currently lack good procedures and systems for systematic reporting and processing of fish welfare data. Together with the Directorate of Fisheries, the Norwegian Veterinary Institute and the Norwegian Institute of Marine Research, we have prepared a proposal for how it is possible to improve the reporting and processing of data while reducing the reporting burden on the industry. The proposal has been submitted to the Ministry of Trade, Industry and Fisheries.

By improving our basic data, we wish to further examine whether and, if so, how, we can use mortality data as an indicator for regulating the facilities’ production capacity. We will be able to use such an indicator when considering applications for permits or inspecting locations.

We will follow up to ensure that the requirements that apply to live storage of cod are met through a control campaign during next year’s winter fisheries.

\(^{17}\) Source: Kontali Analyse
PROMOTE HEALTH, QUALITY AND CONSUMER INTERESTS ALONG THE ENTIRE FOOD CHAIN

The enterprises are still not good enough at complying with the labelling requirements. Illegal medical claims are used for certain food supplements, and many consumers experience side effects when using cosmetics and body care products. Food fraud is becoming a challenge in more and more areas.

Labelling, traceability and product quality

Correct labelling, traceability and correct product information are important in order to ensure that consumers, and particularly people with allergies, can make informed choices. Our supervisory activities show that regulations are not always complied with in this area.

Status

All parties are obliged to provide the same mandatory information about their products. This makes it easier for consumers to familiarise themselves with the content of the products and helps to ensure that the producers compete on equal terms.

Our annual labelling check campaign for selected product groups shows that many enterprises still do not label their products correctly. We find inadequate information about ingredients and allergens in particular.

Goals

• The information provided about food shall enable the consumer to make informed choices regarding quality, composition and diet.
• All enterprises shall have documented procedures in place for tracing and, if relevant, withdrawing products.
• The fish sold shall be of the quality that consumers expect.

Results

The labelling check for 2018 focused on the food group bread and bread products. The labelling of 209 products were assessed in the campaign, including the use of the Keyhole label and nutritional and health claims. The use of the Keyhole label and the nutritional and health claims were mostly correct on bread and bread products. However, the labelling on eight out of ten products was incorrect to a greater or lesser extent. The industries must ensure that they have the required expertise and comply with the labelling requirements so that the consumers are given correct information.

Other supervisory activities targeting nutritional and health claims show that the regulations are not complied with as expected. This particularly applies to food supplements, where several enterprises use illegal claims. We revised our guide for nutritional and health claims to help to ensure that more enterprises comply with the rules. The revised guide was published in May and received good feedback, both from the industry and other players. At the same time as the guide was published, we also updated all pages concerning nutritional and health claims on our website mattilsynet.no.

Supervision of allergen labelling mainly takes place through the smiley inspection scheme. We found nonconformities in 30% of our inspections. Guidance and close follow-up of enterprises are therefore required.

We also published a guide on good information practice which is intended to help to ensure that consumers are not mislead by labelling.

We carried out supervisory activities in relation to grocery shops that do not belong to a chain, and checked whether the shops had adequate procedures in place for tracing meat and meat products. We found the level of knowledge about traceability to be low among these enterprises. Good traceability procedures are necessary to be able to withdraw the right products from the market if an error is discovered. Traceability is a challenge to many enterprises. We still need to provide guidance and supervise the enterprises in this area.
Fish and fish products are subject to special quality regulations in addition to the regulations that apply to other types of food. The Quality Regulations relating to Fish and Fishery Products aim to contribute to good product quality, thereby also promoting increased market access abroad. We have revised the Quality Regulations on assignment from the Ministry of Trade, Industry and Fisheries. We based our revision on available knowledge, findings from our supervisory activities and known challenges. We also looked at the connections to the new food export regulations.

The food research institute Nofima has evaluated a trial scheme whereby the Norwegian Fishermen's Sales Organisation supervised certain quality provisions pursuant to our guidelines. The results showed that there is a need to improve the quality of cod. The scheme has therefore been extended by two years.

Priorities for the time ahead
Our experience from supervisory activities show that many do not comply with the requirements for labelling of food supplements. This applies both to the general labelling requirements, the use of nutritional and health claims and the use of medical claims.

It is challenging that food supplements are marketed via many different channels. We will therefore continue our work of providing guidance to the industry and information to consumers.

We also find shortcomings in traceability procedures and, in 2019 we will carry out supervisory activities targeting the traceability of fresh ready-to-eat vegetables. We will also publish a guide on traceability in relation to foodstuffs.

Genetically modified food, feed and seeds
The occurrence of genetically modified material in food and feed on the Norwegian market remains low and stable, and no GMOs were detected in imported seeds. However, many importers nevertheless need to improve their internal control to prevent import of genetically modified products.

Status
Genetically modified food, feed and seeds are not approved in Norway. Globally speaking, genetically modified organisms (GMOs) are common, and it can be difficult to prevent them from entering the import chain.

Importers of risk products must have good internal control systems in order to prevent illegal products from being imported. Our supervisory activities show that many enterprises have adequate procedures, but some importers lack knowledge. New players appear on the market.

Goals
- No unapproved genetically modified food, feed or seeds and propagating material shall occur.
- Importers of products where there is a risk that genetically modified material could occur shall have the knowledge and internal control systems required to ensure compliance with the regulations.

Results
We have increased the number of ordinary foods selected for GMO analysis through our annual monitoring and control programme to check for illegal contents of genetically modified material. Most of the regulatory violations were found in the food area. However, the number of violations was not higher than in previous years.

We also monitor the development of trace contamination with genetically modified material. These are low-level contamination with EU-authorised genetically modified material that is not considered illegal if the importer can document that sufficient measures have been implemented to avoid such contamination.

We collected a total of 170 samples of food, seeds and propagating material of or containing maize, soya, colza, rice or papaya for GMO analysis: 93 samples of food, 70 samples of feed ingredients for production animals and 7 samples of propagating material of maize and colza. None of the samples contained illegal GMOs, but traces of genetically modified material were detected in around 21% of the food samples. As expected, the feed samples contained a higher percentage of trace contamination than the food samples,
A document control showed that 57% of the controlled food enterprises, 50% of the propagating material importers and 7% of the feed importers did not have adequate procedures in place for preventing the import of genetically modified products. Thirteen instructions to improve import procedures were issued.

Supervisory activities in the retail trade found eight cases of imported food and feed that were labelled as containing genetically modified ingredients in maize flour from the USA and Lesotho, drink mix containing genetically modified sugar from the USA, and horse feed containing genetically modified soya and maize from the EU. The importers had to withdraw the products from the market and improve their import procedures.

As many feed enterprises in the EU, one fish feed enterprise had to withdraw feedingstuffs containing vitamin B2 from China that contained residues of genetically modified bacteria from the production process. The content was low, and we found that using the fish feed would not have entailed a risk to fish or human health or to the environment. We nevertheless instructed the enterprise to withdraw the remaining feed from the market and to improve its import procedures, since selling non-authorised genetically modified products is illegal.

Priorities for the time ahead
The import market for food is unpredictable, especially for small and medium-sized importers for retail trade, including online sales. New players with varying expertise enter the market. We will maintain our sampling and document control efforts in the food area. We will include food that cannot be analysed, including confectionary and oils.

Based on experience from our efforts targeting pet feed in 2017 and sporadic supervisory activities targeting horse feed from the EU, we have decided to continue supervisory activities targeting these sectors in the time ahead.

New gene technology techniques for genome editing (CRISPR) pose a challenge both in the Norwegian and international context in terms of supervision and regulatory development. We participate in discussions to maintain a high level of protection in line with political guidelines. Document control is part of our strategy to ensure that importers can guarantee that their products do not contain illegal genetically modified material that cannot be analysed.
Food fraud

In our experience, food fraud occurs in more and more areas. Examples include forged certificates, false country of origin labelling, use of illegal pharmaceuticals in production animals, fictitious enterprises, the use of illegal pesticides, and products that are incorrectly presented as organic.

Status

The increasing internationalisation of food production and increased online sales lead to an increasingly complex sales chain, where transport of raw materials and foods across national borders makes it more difficult for enterprises, consumers and the authorities to uncover food fraud. There is an increasing number of players on the market, and they are difficult to identify because they are constantly changing their activities and the methods they use in their fraud.

Goals

- The industry shall have an awareness of crimes that concern their production and implement measures to prevent fraud.
- The NFSA shall have efficient control methods for uncovering food fraud at its disposal.

Results

Our control projects in 2017/2018 uncovered fraud involving novel food and food supplements, extra virgin olive oils, tuna and spices. We carried out several campaigns in cooperation with A-krim and Norwegian Customs that resulted in the confiscation of foods and sales bans being imposed on several enterprises. In the Greater Oslo region, we carried out this type of supervisory activities in relation to 150 enterprises, and remarks were issued concerning many of them.

Illegal use of food additives in tuna (OPSON VII)

This year’s campaign targeted illegal additives in tuna. These additives can conceal poor quality and lead to allergic reactions caused by histamine. The background for the campaign was extensive fraud involving tuna in the EU in recent years.

In Norway, we detected, in cooperation with Norwegian Customs, illegal use of carbon monoxide in 6 out of 31 samples. This resulted in sales bans, withdrawal of products and a review of traceability procedures. Based on the findings made in the campaign, we will continue monitoring this area in 2019 through spot checks of imported tuna.

Nordic risk assessment project 2019/2020

We have cooperated with other agencies such as Norwegian Customs and the police and participated in relevant international forums with a view to uncovering food fraud. We are heading a Nordic project that aims to produce a joint Nordic risk assessment of food crime targeting the Nordic markets. In 2019, the individual countries will carry out national risk assessments within the framework of defined criteria.

We use the AAC system to report food fraud cases. We reported two cases that both concerned suspicion that carbon monoxide had been added to tuna. We received nine food fraud cases from other European countries for follow-up or for information purposes.

Priorities for the time ahead

We will work more on our control methods. We will also work on how we work on cases prior to filing a police report. We will limit the types of cases we consider to be food fraud and prioritise our efforts accordingly. We will continue our cooperation with Norwegian Customs and the police so that serious cases lead to police investigation and, if relevant, conviction. The results from the Nordic project will be a useful source of information in our further work.

Food fraud could have major consequences for consumers, and consumer information work it is therefore very important. Consumers must be made aware of the risk of shopping online from unauthorised producers.

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18 The results of the MC programme for spices in 2018 have not yet been published.
Cosmetics and body care products

Norwegians buy more cosmetics and body care products than most Europeans. Side effects and misleading information are the main challenges, along with a lack of knowledge about substances in cosmetics that can cause serious adverse health effects.

Status
The cosmetics and body care products market is big, difficult to follow and is constantly developing with new trends emerging. The cosmetics industry has a high innovation rate. According to Cosmetics Europe, the European trade association for the cosmetics and personal care industry, 25% of products are replaced each year. Online sales are increasing, and an increasing proportion of sales take place directly between the producer and the customer at the expense of physical shops. Even though we confiscate products in shops, they can still be available online.

We also register that parts of the industry are unwilling to comply with regulations. There is an abundance of counterfeit products and illegal products in the cosmetics field. Consumers must be aware that not only can such products cause permanent health damage, but they can also have a negative environmental impact, for example mercury in skin bleaching products.

Goals
- Cosmetics shall not contain chemical substances in quantities hazardous to health.
- Cosmetics shall not be marketed using claims that mislead consumers.

Results
The cosmetics control campaign was intended to raise Norwegian producers’ and importers’ awareness of their responsibility for documenting the safety of the products they sell on the Norwegian market, and to check that the prohibition against cosmetics tested on animals is complied with. Supervising this industry is time-consuming and resource-intensive work, but it is necessary in order to ensure that cosmetics and body care products are safe.

Our monitoring and market control of sunscreen showed that as many as 9 out of 17 products provided poorer protection than the stated sun protection factor. Although the sampling was based on spot checks, the results indicate that it is important to follow up the industries in relation to correct labelling, clear instructions for use and relevant warning texts.

In our ongoing supervisory activities, we found most nonconformities (around 7%) in relation to the duty to submit notifications to the EU’s cosmetics register, the Cosmetic Products Notification Portal (CPNP). On several occasions, we have confiscated cosmetic products that are illegal/hazardous to health and ordered them to be destroyed and/or imposed a sales ban.

We received 142 notifications concerning products potentially hazardous to health from the EU’s rapid alert system RAPEX. This is a marked increase from the previous year (89 notifications), and we reported seven products ourselves.

We have analysed information about cosmetics from, among other things, previous supervision reports and reports from the Norwegian Scientific Committee for Food and Environment (VKM). This gives us a basis for making our supervisory activities more risk-based.

Priorities for the time ahead
As one of six government agencies responsible for product safety, we will participate in the launching of the website ‘farligeprodukter.no’, which also covers cosmetics and body care products.

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19 Norwegian Cosmetics Association (KLF), 2018
20 The economic cost of IPR infringement in the cosmetics and personal care sector: report of a pilot study: Counterfeit products caused a loss of income for the established industry of around EUR 5 million, corresponding to approximately 7.8% of sales in 2015.
Now that we know that a lot of people experience side effects, it is food for thought that so few people report such effects. To increase the proportion of reported side effects from health personnel and consumers, we participate in the enn vein project, which is a joint notification system for side effects.

We will continue to supervise and analyse cosmetics and body care products. In 2019, we plan to analyse skin bleaching and teeth whitening products to check whether they meet the requirements for safe cosmetic products.

21 Synovate, 2011
ENSURE ENVIRONMENTALLY FRIENDLY PRODUCTION

The NFSA’s social mission supports four of the UN’s 17 sustainable development goals, and is related to at least six others. The focus of this effect goal is environmental impact and the desire to ensure that biological resources are recycled to the greatest extent possible (bioeconomy). In the following, we will discuss organic production, transfer of disease from farmed to wild fish, use of pharmaceuticals that can lead to resistance in land animals and fish, and the use of pesticides and rodenticides.

Organic production

There is a slight increase in agricultural enterprises that engage in organic production. Norway’s administration of the regulatory framework for organic production is in line with international requirements.

Status

After decreasing for several years, the total number of agriculture enterprises has stabilised during the past two years. There is still a slight increase in the number of enterprises that have achieved organic certification in the areas import, processing and sales. This means that the proportion of organic agriculture enterprises has increased slightly. Consumers’ increasing demand for organic products is largely covered by imports.

Figure 17: Number of approved organic enterprises in the period 2009–2018. Source: Debio.

Goals

- Products sold as organic on the Norwegian market shall meet the requirements that apply to organic production.

Results

In May, the EU adopted a new overriding regulation on organic production which will enter into force in 2021. We participated in the regulatory process in the EU and requested assistance from the regulatory committee for organic production in the mapping of potential consequences for Norway. We improved the guides to the regulatory framework for organic production. They are written in plain language, making the regulations easier to understand for users.

We have delegated to Debio the authority to carry out official control in relation to compliance with the regulatory framework for organic production. Debio carries out supervisory activities annually in relation to all enterprises that are members of the certification scheme. The results show that most enterprises have good quality system and documentation procedures in place, but there are also enterprises that face challenges when it comes to providing sufficient documentation.
Our audit of Debio showed that the control body has good procedures and a sound quality assurance system. We found some nonconformities relating to their follow-up of nonconformities in the enterprises. Debio has implemented measures to improve this.

As a result of the feed crisis, many organic farmers needed to buy conventional coarse fodder. We issued 315 such permits, a much higher number than in previous years.

ESA conducted an audit of Norway’s (the NFSA and Debio) follow-up of the regulatory framework for organic production. The conclusion was that we meet ESA’s expectations in most areas, but that Debio’s follow-up of enterprises with organic certification and the exchange of information between Debio and the NFSA must be improved.

Priorities for the time ahead
We will contribute to the work on supplementary rules to the new EEA regulation on organic production which will come into force in 2021. We will also contribute our expertise in the follow-up of a new national strategy for organic farming in relevant areas.

We will cooperate with Debio on implementing measures to develop the areas that need improving according to the ESA audit. Debio will prioritise supervision of procedures for reception control of organic products, which can lead to more risk-based and efficient supervisory activities.

Environmentally friendly use of pharmaceuticals in animal holdings and aquaculture

There has been a significant reduction in the use of pharmaceuticals to treat land animals and fish.

Norway’s antibiotic resistance situation is good. Our open borders make it a challenge to maintain our good status. This requires the general public and business and industry to have knowledge and avoid bringing bacteria resistant to antibiotics into the country.

We are working to improve the systems that contribute to control of the use of pharmaceuticals in general.

Status
The use of pharmaceuticals to combat salmon lice in the aquaculture industry has been further reduced and is low in relation to the amount of fish produced. Due to resistance problems, most delousing agents are now largely ineffective and have been replaced by mechanical methods. The use of antibiotics on fish is also low, but has increased somewhat.

The use of antibacterial agents on land animals was reduced by 40% in the period 1993–2017, and the consumption was 5,587 kg in 2017. The consumption of broad-spectrum antibiotics is low. For example, only 8.45% of all antibiotics used on pigs are broad-spectrum antibiotics.

Norway’s resistance status is still very favourable compared to many other countries. Norway is still in the unique situation of having a pig population without established LA-MRSA infection. For comparison, the Danish Veterinary and Food Administration found resistant bacteria in nine out of ten fattening pig herds. A report from the European Centre for Disease Prevention and Control (ECDC) and the European Food Safety Authority (EFSA) on antimicrobial resistance in zoonotic and indicator bacteria from humans, animals and food shows high levels of multi-resistance. Globally, many countries have a poor overview of antibiotics consumption and little regulation of sales of pharmaceuticals.

Goals
- The use of pharmaceuticals in aquaculture shall be responsible in relation to the development of resistance, food safety and the environment.
- Norwegian livestock shall be free of MRSA.

Results
Use of pharmaceuticals in the aquaculture industry
The use of pharmaceuticals to combat salmon lice has been further reduced and has largely been replaced by mechanical methods.
The use of antibiotics in the Norwegian aquaculture industry remains low. Few aquaculture facilities were treated. However, we have registered an increase in the use of antibiotics over the past two years. The increase is due to treatment in three marine grower facilities where the high average weight of the fish made a greater quantity of antibiotics necessary for one course of treatment.

We concluded the control campaign targeting the aquaculture industry's use of pharmaceuticals. The goal was to ensure satisfactory use of pharmaceuticals and to make enterprises aware of their responsibility in this area. We carried out supervisory activities in relation to fish health personnel, fish farmers and slaughterhouses. We found that there was a need for improvement as regards safeguarding environmental considerations when prescribing delousing agents, and that the agents were often used in doses that cannot be documented to be safe. We also found room for improvement of the fish health personnel's procedures for communicating to the fish farmers how long the medicated fish must be kept from slaughter. Delousing agents are often used on weakened fish, and this affects fish welfare. Inadequate environmental assessments are especially problematic when pharmaceuticals are used in ways that are not in accordance with the summary of product characteristics. In such cases, the Norwegian Medicines Agency's assessments cannot be applied.

Pharmaceuticals in land animal holdings

The annual monitoring programme for antibiotic resistance (NormVet) shows that the prevalence of antibiotic resistance is still low in bacteria from people and animals. This is due to a low consumption of antibiotics, a beneficial consumption pattern and effective measures to prevent the spread of resistant bacteria.

New regulations on infection prevention measures against certain antibiotic-resistant bacteria in pigs state that people who have been in risk situations must use protective equipment in contact with pigs. New regulations on the duty to notify the detection of certain resistant bacteria are ready to be adopted. The regulations impose a duty on veterinarians and laboratories to report their findings if such bacteria are detected. The work to prevent the spread of antibiotic-resistant bacteria is closely related to infection control in livestock holdings, and the regulations will contribute in that regard.

The livestock industry has its own action plan that includes several practical measures to reduce the use of antibiotics, and there is good compliance with this plan. The fact that livestock-associated MRSA was not found in any pigs and has still not established itself in Norwegian pig holdings can most likely be attributed to good preventive measures and vigilance in the pig farming industry. The measures have had a measurable effect and show that preventive measures work.

We developed the e-learning course *Bare når det trengs* ('Only when necessary') about the use of antibiotics and antibiotic resistance in animals in cooperation with the Norwegian Veterinary Association, the Norwegian University of Life Sciences, the Norwegian Medicines Agency, Tine, Animalia and the Norwegian Veterinary Institute. In just two months, more than 600 veterinarians and veterinary students had registered for the course, which indicates that the expert community is highly interested in this topic.

The veterinary medicines register (VetReg) can now specify individual veterinarians' prescriptions. We can use this data in our supervisory activities. Technical improvements in the system mean that data quality has improved.

Priorities for the time ahead

We will complete an analysis tool in VetReg that identifies any systematic differences in prescription practices between geographical areas. This will allow veterinarians to compare their prescription practice to that of other areas, and we can make our supervisory activities more risk-based.

We will follow up the disease situation in the aquaculture industry closely, since the favourable situation with limited use of pharmaceuticals could change quickly.

Veterinary students who need a temporary licence to practice in Norway after 1 June 2019 must pass the e-learning course *Bare når det trengs* in order to be granted a licence.
The effect of salmon lice from farmed fish on wild salmonids

*The salmon lice infection pressure on wild salmonids is too high in some areas, as shown by the report from the expert group assessing the situation in the different production areas and the Norwegian Institute of Marine Research’s monitoring of the salmon lice situation.*

**Status**

The results from the monitoring of salmon lice show that the situation for wild salmon is serious along the coast from Rogaland to Trøndelag. There was also a negative development in some fjord areas, including the Sognefjord, during the period 2012–2017. In areas from Ryfylke to Møre og Romsdal and Nord-Trøndelag, wild salmon smolt are at moderate to high risk of salmon lice-induced mortality. The situation for wild sea trout is likely worse, since this species is more stationary and does not migrate to the ocean.

**Goals**

- The regulatory requirements relating to salmon lice shall be complied with.

**Results**

According to the EU’s Water Framework Directive, Norway is obliged to implement measures when water bodies are negatively affected.

The NFSA is working with several other agencies on the Water Regulations to achieve and retain good environmental status of Norway’s water bodies.

We are following up the potential effects of salmon lice from farmed fish on wild salmonids. The NFSA’s freedom to implement the appropriate measures is based on the regulatory framework that we are charged with administrating. To learn more about wild salmonids in river systems, we asked the Institute of Marine Research and the Norwegian Veterinary Institute to categorise 400 salmon river systems. The reports are published online.

We help to reduce lice pressure by checking that the fish farmers comply with the lice limits and reducing the biomass in facilities that have had long-term problems keeping within the limit. Our work is based on data from the fish farmers’ lice counts and our supervisory activities. Four aquaculture facilities had to reduce their production due to long-term salmon lice problems, compared to six facilities the previous year. The NFSA has rejected applications to establish facilities at locations in areas where the impact on wild salmonids is unacceptable.

The aquaculture scheme for marine grower production areas started in 2017 in order to contribute to sustainable value creation along the coast. Briefly explained, the coast has been divided into production areas where future growth is governed by how negative an impact salmon lice from farming has had on the wild salmon.

The fish farmers can apply to the NFSA to increase their biomass every other year if they can demonstrate that they have good control over the salmon lice situation. This applies to locations that meet the criteria of the regulations relating to production areas. We considered 56 such applications relating to 43 locations. Twelve locations met the criteria, while the remaining 31 locations were rejected. Appeals were lodged in 17 cases, but none were successful.

**Priorities for the time ahead**

We will continue to fulfil our role pursuant to the Water Framework Directive. We will continue to follow up the lice counts based on reported lice numbers and supervisory activities. We will impose sanctions on locations that exceed the limits over time and take account of the infection pressure on wild salmon when we approve applications to establish facilities.

We will request our knowledge support institutions to help us to develop tools for identifying locations that are especially vulnerable to contracting and spreading lice so that we can implement efficient and targeted measures.

In 2019, we will be processing applications for capacity increases under the regulations relating to production areas. Locations that meet the requirements regarding salmon lice and use of pharmaceuticals may be
permitted to increase their capacity. After this round, we will only process such applications every other year (odd number years).

**Pesticides**

*Experience from supervisory activities show that users and distributors of pesticides must become better at complying with the regulations. The number of reports of concern received from private individuals remains high.*

**Status**

Only people who have completed a course and passed an exam are permitted to use pesticides professionally. More than 28,000 people hold such authorisations. However, monitoring of pesticide residues in foodstuffs and ornamental plants identified several cases where pesticides were used on other plants than the ones they are authorised for. Pesticides as contaminants in foodstuffs are discussed in the chapter on food.

Sales statistics show that 622 tonnes of pesticides were sold, stated as quantity of active agents. This is a reduction from 2017, when 677 tonnes were sold. The reduction can largely be explained by the fact that fungicide use was far lower than normal because the summer was hot and dry.

It is a challenge to combine the farmers’ need for pesticides with consumers’ wish for their use to be limited. The attention paid to the negative aspects of pesticide use is growing, particularly among private individuals. We still receive many reports of concern regarding suspected unlawful use of pesticides.

**Goals**

- Pesticides shall contribute to good crops, and the use of pesticides shall be sustainable.
- Users shall have an awareness of pesticides and comply with the principles for integrated pest management.

**Results**

To exemplify efficient digital and data-driven supervision: one inspector alone conducted 80 controls of electronic pesticide records of fruit farmers in Hardanger. Among other things, we found nonconformities in the use of illegal pesticides and persons lacking authorisation carrying out the spraying.

Supervisory activities targeting distributors of pesticides showed that many of them have stocks of pesticides that are no longer legal to sell. Our inspections of major groups of companies uncovered several cases of diffusion of responsibility between the central level and subordinate entities. These inspections also found that several enterprises did not have staff with the required expertise present during opening hours.

**Approval of pesticides**

The pesticide area is different from the other administrative areas in that we ourselves prepare the risk assessments on which our decisions are based. We approve preparations for use in Norway. The EU can also task us with approving active agents on behalf of the whole EEA.

We submitted our assessment of the active agent benfluralin within the stipulated deadline. This assessment was made on behalf of the EU, so the work was extensive and resource-intensive.

Persons who wish to sell new pesticides in Norway must apply for approval. Maximum deadlines have been set for our processing times for such applications. We made decisions on 20 pesticide approval applications. In addition, 11 applications were under consideration at the turn of the year. We did not comply with the deadline in 15 of the cases, primarily because the applications were incomplete and because assessments from other parties, on which our assessments must be based, were delayed.

The regulatory framework that applied before the new regulations entered into force in 2015 did not set the same maximum deadlines, and the fee was considerably lower. Therefore, a large number of applications were submitted before the new regulations entered into force. Nine of these were among the applications considered in 2018, while the rest will be considered after the turn of the year.

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22 See Table 1 in Appendix 1
Priorities for the time ahead

Illegal sales of counterfeit and non-approved pesticides is on the rise in the EU. We will investigate the situation in Norway in cooperation with the Directorate of Norwegian Customs.

Results from supervisory activities showed that there is still a need for supervision as regards the correct use of pesticides and awareness of integrated pest management. We are planning control campaigns among primary producers of foods of plan origin and pesticide importers.

We will also supervise and help to raise the level of knowledge among users of pesticides and the general public.

Rodenticides

A new scheme was introduced in 2018 that permits owners and tenants of agricultural properties to buy and use certain rodenticides.

Status

In autumn 2018, it became permitted for owners and tenants of agricultural properties to use some of the professional rodenticides to combat rodents at the agricultural property that they own or lease. They are required to hold a certificate of authorisation to use pesticides and to take a supplementary course in rodent control.

Goals

- Holders of supplementary certificates for rodent control shall have the expertise required to carry out correct and efficient rodent control in a professional manner that prevents harm to health and the environment.
- Information about the new scheme shall be easily available.

Results

The NFSA and the Norwegian Institute of Public Health cooperated on two courses for teaching staff for the supplementary course in rodent control. The first supplementary courses were held at the end of the year. County governors and municipalities contributed to the administration of the new scheme in the same way as in the pesticide area.

Priorities for the time ahead

Since this is a new scheme, we have received many enquiries. We will update our website to meet the need for information. We will also maintain a dialogue with relevant parties to gather experience of the scheme.

There is a great demand for courses and a need for more course organisers. New courses will be held already in 2019.

Fertilisers

Both Norway and the EU work to amend the regulatory framework for fertilisers to facilitate the circular economy, while safeguarding health and environmental considerations. The use of waste as a raw material in fertiliser production requires good control of heavy metals, environmental toxins and infective agents.

Status

There is an increasing interest in using different types of waste and by-products in fertilisers. The regulations are old and not adapted to today's challenges. We must protect our topsoil, but so far, we do not have enough knowledge to stipulate optimal limits for acceptable amounts of heavy metals and environmental toxins. This applies to how much heavy metals and environmental toxins it is acceptable to introduce and how best to ensure that fertiliser products do not spread infective agents to people, animals or plants.

Sales statistics for lime and mineral fertilisers have not changed much from previous years.

Integrated pest management

Integrated pest management is an overriding strategy that combines well-known methods and techniques for controlling plant pests. For example, such measures may include a combination of crop rotation, fresh plant material, regular observation and choosing mechanical or biological means to combat pests over chemical methods. Chemical methods play an important role in integrated pest management, but should not be the first choice.
Goals

- Fertilisers shall not entail a risk of harm to human or animal health or to the environment.
- The use of waste and by-products as raw materials in fertilisers shall be responsible.
- Fertilisers shall have a predictable effect and contribute to good crops.

Results

We have submitted new draft regulations for the sale and use of organic fertilisers to the ministries. The proposal was prepared in cooperation with the Norwegian Environment Agency and the Norwegian Agriculture Agency.

A new approval scheme will make it easier to sell fertilisers based on sewage sludge. The scheme applies to products that are suitable for even spreading in amounts corresponding to the plants’ agronomic need for nutrients in a similar manner to mineral fertilisers.

Experience from our supervisory activities show that many compost and bio-waste producers are working systematically to assure the quality of the products. We nevertheless see that many players carry out inadequate risk assessments before introducing new types of waste into their production. There is a need to raise awareness of the players’ obligation to assess risks, both in terms of environmental toxins and infective agents. For example, this applies to the use of residual products from fish oil production and sludge from smolt facilities as raw materials in fertiliser production.

Priorities for the time ahead

The enterprises that produce and sell fertilisers have the primary responsibility for ensuring that their products are safe. In many cases, it can be a good solution that enterprises that make the same products join forces to carry out such assessments at industry level. We will also help to increase the knowledge base in this area through our knowledge support institutions and the Norwegian Scientific Committee for Food and Environment (VKM).

Our proposal for new fertiliser regulations and new guides will reduce many of the challenges in this area, among other things by clarifying the enterprises’ responsibility as regards assessing the raw materials used in relation to utility value and risk.

We will carry out risk-based control of the production and sale of fertilisers based on waste and by-products. We will also check the cadmium content of mineral fertilisers and that the nutrient content complies with the declaration on the products.

At the end of December, the EU adopted a new product regulation for fertiliser products. This regulation is not intended as a replacement for the national product regulations, but shall be an optional alternative. We are now considering the consequences of the new regulation. In the past, only mineral fertiliser and lime were covered by the harmonised regulatory framework. The fact that the EU rules for the first time also cover organic fertilisers raises some new problems that we need to solve.
ENSURE MARKET ACCESS FOR NORWEGIAN PRODUCTS ABROAD

In 2018, Norway exported 2.7 million tonnes of seafood worth a total of NOK 99 billion. The Norwegian Food Safety Authority plays an important role in securing access to markets outside the EEA, and has given special priority to China and Brazil in recent years.

Status
Norway exports various types of foods and animals, as well as reproductive material from cattle, pigs and fish. Seafood is by far the biggest export. In 2018, Norway exported farmed fish worth a total of NOK 71 billion, and wild-caught fish and shellfish worth NOK 28 billion (the Norwegian Seafood Council). This makes Norway the world’s second biggest exporter of seafood. Norway exports seafood to more than 140 countries, and the EU is the biggest market. Seventy per cent of Norway’s seafood exports go to the EU. In the past decade, the value of Norwegian seafood exports has increased by 122%.

Norway does not export much products other than seafood, but Norway’s good animal health status makes reproductive material from cattle and pigs popular abroad.

Norway is a small player in international politics. Political conflicts cause uncertainty in certain markets, and we must therefore envision various scenarios where Norway must adapt to changing and more extensive requirements from other countries.

Goals
- Norwegian goods shall have access to markets all over the world.
- The markets shall have confidence in the Norwegian food administration.
- Export of Norwegian goods shall be ensured through agreements with other countries.
- The system for issuing phytosanitary and sanitary certificates shall ensure that the flow of goods is safe and simple.

Results
Last year, we issued just over 54,000 certificates for seafood, 643 certificates for milk and dairy products, 226 for meat and meat products, 609 for plants, soil and soil improvement products, 579 for reproductive material and 1,599 for live animals. Even for small-volume product groups, negotiations with the recipient country regarding product requirements still require the same amount of resources.

We emphasise our market access work, especially in relation to seafood export. We work with many markets at the same time, but Brazil and China have been particularly important in recent years. Good cooperation across national border requires a common understanding of and compliance with national and international regulations. We therefore facilitate inspections by the authorities of other countries in cooperation with the relevant enterprises and industry organisations. For example, the Brazilian authorities inspected Norwegian clipfish producers in September. The inspections were successful.

Brazil: a demanding, but important market
Brazil is an important market for the Norwegian clipfish industry. The Brazilian import system is complex, and Norwegian exporters find it difficult and challenging. Major changes in Brazilian regulations have given rise to uncertainty in recent years. New regulations for frozen fish and for parasites in fish were introduced in 2017 and 2018, respectively. New salt fish regulations will be introduced in early 2019.

The regulatory amendments have led to a 22% reduction in clipfish exports. Figures from Statistics Norway show a reduction for all species (cod, saithe and tusk), of which tusk accounted for the largest reduction. We issued 23% fewer certificates. Norway is of the opinion that the regulatory amendments should be as closely related to international rules and standards as possible, and has given Brazil feedback to that effect.

Sanitary and phytosanitary certificates
In most cases, the product must be accompanied by a certificate which functions as the product’s passport. It confirms that the product was produced in accordance with the requirements of the importing countries. Sometimes, the requirements are more stringent than our national laws and regulations. Producers and exporters must therefore be aware of these external requirements and ensure that they are met when the certificate is issued.

23 See Appendix 3, Table 5
We have developed a system for sending lists of Norwegian producers that want to produce goods for the Brazilian market. We work closely with the industry, and the Norwegian Seafood Council has been particularly helpful. We have had several meetings with relevant leaders in Brazil to strengthen cooperation and improve contact between the authorities of our two countries.

**Exports to China are improving**

We have worked to ensure market access for Norwegian fish, and especially salmon, to China after trade relations were normalised in December 2016. The protocol that sets out the requirements that Norwegian salmon for export must meet was signed in May 2017. Salmon exports grew by 275% in value and 205% in volume from 2017. The value of exported whole salmon totalled NOK 821 million.

We participated as an expert authority in extensive negotiations with the Chinese authorities. We participated in the Minister of Fisheries’ official delegation in May, and we participated in SPS negotiations during the free-trade negotiations with China.

The Chinese authorities have set clear limitations on market access for Norwegian salmon. Salmon shall not be imported from aquaculture locations with suspected or confirmed cases of pancreas disease (PD) or infectious salmon anaemia (ISA). Furthermore, all Norwegian seafood producers must be registered and approved in China. We send information about the Norwegian enterprises regularly.

The Chinese authorities came for inspections in March on our invitation. The inspections were successful, and the restrictions on salmon from Sør-Trøndelag, Nordland and Troms counties due to the fish diseases ISA and PD were lifted. However, three Norwegian salmon slaughterhouses are excluded from export to China.

Each species to be exported to China must be approved separately by the Chinese authorities. Not all species from Norway have been formally approved so far. The Chinese authorities gave their preliminary approval of trade of edible crab and ling on the basis of historical trade in these products.

**New markets equal new opportunities**

Many Norwegian producers want to export goods to new markets, and new goods to their established export markets. Making such export possible is a long process, however. If the product must be accompanied by a sanitary/phytosanitary certificate, the NFSA must reach an agreement with the importing country on the requirements for the certificate. Sometimes, the requirements are more stringent than our own regulatory framework.

More and more importing countries want to see how our official control systems work in practice. In 2018, we carried out an inspection of reindeer meat together with authorities from Hong Kong, among other things. We have worked to make it possible to export reindeer meat to Hong Kong for several years. We have received feedback that permission to export this product will probably be granted during the first six months of 2019.

**Efficient processing of export certificates**

Every year, we issue around 60,000 export certificates for products for export from Norway to countries outside the EU/EEA. For seafood exports in particular, our issuing of certificates and limited opening hours create unnecessary delays, since much of the production and logistics take place 24/7 all year round.

We are working to rationalise the issuing of export certificates on assignment from the Ministry of Trade, Industry and Fisheries (the export project). Based on the current situation and expected developments, we have chosen to prioritise new solutions for the seafood industry. This is the biggest and most valuable export industry with the most players – nine out of ten certificates concern seafood. This area also has the greatest potential for rationalisation in both the short and long term. The goal is for other industries to become included in the system in time.

We also consider the work of the Codex Committee on Food Import and Export Inspection and Certification Systems (CCFICS) important to ensuring good market access. This includes electronic certification and the use of external certification bodies.

**Priorities for the time ahead**

We follow developments in the UK and the outcome of the Brexit negotiations. We will follow up both export and import conditions and new regulations in a suitable manner once the outcome is clear.
As regards China, we will prioritise the work to obtain approval for export of fishmeal and fish oil for non-human consumption and have the restrictions against the three excluded salmon slaughterhouses lifted. We will also work on market access for selected agricultural products in close dialogue with the industry and the ministries.

The upcoming Brazilian salt fish regulations will also affect the issuing of export certificates. We will therefore maintain the good dialogue in order to achieve results.

We are working to clarify our prioritisation of which markets we will devote the most resources to. These prioritisations must be clarified with the ministries and the industries in question.

Several importing countries require self-defined lists of Norwegian producers that want to export their products to their country. The information they require for these lists is extensive. It is impossible for us to maintain and send such lists sufficiently often to ensure that the importing countries have up-to-date information at all times. We will cooperate with the seafood industry to find better solutions to the challenges these lists entail.

In 2019, we will implement the first measures to rationalise the issuing of export certificates. We will stop using requisitions for most seafood certificates and introduce advance notification for certificates with special requirements over and above those required in Norwegian and EEA regulations. This will meant that only a few certificates will require advance notification and assessment by the NFSA before we can issue the certificate.

We will also continue working on a certificate solution with automated verification of the requirements that form the basis for the issuing of sanitary/phytosanitary certificates. We are developing a system that can be used when both we and the rest of the world are ready for electronic certificates.
WORK METHODS

In order to fulfil our social mission, we make use of a variety of work methods. We gather knowledge and analyse status, develop regulations, carry out supervisory activities, communicate and provide guidance. We combine these tools in order to achieve regulatory compliance.

Before we describe our work methods and our work in 2018, we would like to say something about what we see as opportunities for development of our methods.

Work method development in the time ahead
Changes in society and demands for public sector rationalisation require us to develop our work methods in order to achieve more with less resources.

We want to better facilitate business activities and help business and industry players to produce safe food and take good care of animals and fish. The development work is intended to contribute to rationalisation so that we can devote a bigger proportion of our resources to prevention and guidance activities and prioritise supervisory activities targeting the enterprises where they are most needed.

We will make use of the opportunities that new knowledge and technology represent and optimise the effect of our efforts. We will develop more self-service solutions and automate some services that are currently done manually, as well as use the opportunities new technological solutions provide for carrying out our tasks in a more efficient manner. We will use technology for the tasks that technology can do best and use human resources and judgement to resolve complex issues and provide guidance.

We will make better use of our own data and data from other sources. The possibilities for and potential gains from combining data from many different sources are great. We can gain new knowledge and deeper insight from analysing our own data in new combinations with data from industries, knowledge support institutions, other public agencies and open sources. This will improve our ability to implement targeted and risk-based measures and direct our efforts towards the areas where they are most needed.

In our regulatory work and dialogue with business and industry, we will communicate clearly the division of roles and their responsibility for food safety, health and welfare. We will develop regulations that are technology-neutral and enable facilitation of digital development.

A more targeted and risk-based use of guidance and supervision will be required to make the activities more effective. Use of technology and data will result in us carrying out fewer traditional one-on-one supervisory activities. We will make our use of measures more targeted such that we provide guidance to those who are willing but unable, and apply stricter sanctions in relation to the unwilling. Enterprises should feel that there is a high risk of detection if they violate the regulations. Our supervisory activities targeting enterprises organised in chains or groups of companies will to a greater extent be aimed at the central levels, with verification control in relation to the individual enterprises.

We must prepare ourselves to continue to discharge our social mission in future and not allow our knowledge or technology to become outdated. We will therefore increase our pace of development and put more resources into development and improvement work. Given that our budget will not increase, that will mean fewer staff.

We have gathered opinions from enterprises, trade associations and partners about how we are perceived and about our potential for improvement. We received a lot of useful feedback that largely corresponds with what we ourselves see as our development areas. We have used this as a basis for making choices in our new strategy that will apply from 2020. The new strategy emphasises organisational development through digitalisation of our most important work processes.

24 The future public sector development is primarily based on the work of the Productivity Commission. The Commission emphasised more targeted use of public policy instruments and digitalisation as the most important measures to increase productivity. The work of the Productivity Commission is summarised in Norwegian Official Report NOU 2015:1 Productivity – Underpinning Growth and Welfare and Norwegian Official Report NOU 2016:3 At a turning point: from a resource-based economy to a knowledge economy.
Gathering knowledge and analysing status

*If we are to discharge our social mission and keep society’s confidence, our activities must be knowledge-based. We keep an overview of the situation and development trends within our area of responsibility and base our priorities and decisions on knowledge.*

**Goals**
- We shall have good knowledge about situations, developments and trends, and all our actions shall be knowledge-based.
- Our knowledge shall be made publicly available.

**Results**
We cooperate with the knowledge support institutions and use research-based risk assessments and specialist knowledge in our work. In addition, we monitor and map the status of our areas of responsibility and maintain extensive contact with businesses and consumers. We use our knowledge to draft rules and regulations, provide guidance and carry out supervisory activities in a way that helps to achieve the goals inherent in our social mission. We also advise our owner ministries in food-related matters. Our cooperation with knowledge support institutions and laboratories is formalised through agreements and contracts.

**We obtain risk assessments and manage risk**
The NFSA manages risk, and we choose which areas to prioritise and how we organise our activities based on risk assessments.

We obtain independent research-based knowledge support and risk assessments from the Norwegian Institute of Marine Research, the Norwegian Veterinary Institute, the Norwegian Institute of Public Health, the Norwegian Institute of Bioeconomy Research (NIBIO) and the Norwegian University of Life Sciences (NMBU), among others. For complex interdisciplinary matters, we turn to the Norwegian Scientific Committee for Food and Environment (VKM), which is an independent committee that brings together expertise from a broad range of research communities.

During 2018, eleven risk assessments from VKM were published concerning our areas of responsibility. One of them was commissioned in cooperation with the Norwegian Environment Agency. We have also commissioned six risk assessments that will be published in 2019. In addition, VKM has prepared a summary of the most important knowledge gaps that the committee has uncovered. The results from the risk assessments are discussed under the respective disciplines. Below is a list of the topics of the risk assessments published in 2018.

- No need to revise conclusions on chronic wasting disease, report 2018:01
- Spreading of Chronic Wasting Disease (CWD), report 2018:16
- Glycyrrhize acid in liquorice - possible health effects for fetuses and children, report 2018:09
- Listeria - probability of exposure for vulnerable groups, report 2018:13
- Wild boar population in Norway – implications for health and environment, report 2018:14
- The plant pests Dendrolimus sibiricus and Dendrolimus superans, report 2018:08
- Dispersal of quarantine pests from businesses receiving potatoes or vegetables, report 2018:15
- Manganese in food supplements – risk of negative health effects, report 2018:02
- Vitamin K – assessment of suggested maximum limits for vitamin K in food supplements, report 2018:03
- Chromium – assessment of suggested maximum limits in food supplements, report 2018:06
- Molybdenum – assessment of suggested maximum limits in food supplements, report 2018:05

**We monitor and map and increase our knowledge**
We monitor and map the status and development of diseases, infective agents, pests, contaminants and food additives that may occur along the food chain. The NFSA has no laboratories of its own, but purchase analysis services in the form of monitoring and control programmes. We prioritise and adapt programmes to ensure that they can identify the relevant risk situation. In 2018, 74 such programmes were active, see Appendix 3 Table 6 for an overview of programmes.

We use the results to describe the situation in the different discipline areas, and they form part of the basis for regulatory development, supervision, guidance and protective measures. Many of the programmes address
EU documentation requirements. Some programmes provide new knowledge, such as the examination of wild boars killed that was introduced in 2018.

The figure below shows the costs relating to analysis of samples within monitoring and control programmes for the period 2015–2018. The costs for 2018 amounted to about 100 million, which is at about the same level as in 2017, although minor adjustments were made to adapt the programmes to the current risk situation.

These costs are intended as an indication only and do not provide a complete overview of the resources we have spent on monitoring and control. For example, the time spent collecting samples is not included. The overview nevertheless gives an impression of which discipline areas we have prioritised for monitoring and control in 2018. The animal health bar (land animal health) reflect the increased efforts relating to chronic wasting disease (CWD) even if it does not show the overall resources used on combating CWD.

We have several sources of knowledge that we can make better use of

We carry out a large number of supervisory activities every year, thereby generating a lot of information. In recent years, we have developed new and more modern control solutions, but overall, the solutions do not meet the current need to extract data for analysis and share them with others via expedient user interfaces. It is difficult and time-consuming to retrieve data from our case processing tool and preparing them for analysis. Digitalisation and automated data retrieval would require standardisation of processes, methods and terms. We have also identified a need for a new common digital platform to make it possible to collect, use and share data with others in a better way than we can do today.

In 2012, the Ministry of Agriculture and Food pointed out the need for more knowledge about the government administration’s contribution to food safety through e.g. regulatory development and supervision. A five-year trial scheme of public administration research was subsequently introduced. With the assistance of the Research Council of Norway, we have evaluated the projects that were granted funding and found that they improved our understanding of the effects of different forms of regulations, different official control regimes and different use of measures. This type of knowledge is important if we are to be able to update the public administration.

Priorities for the time ahead

Our credibility and the public’s confidence in the NFSA are contingent on our regulations, official control and guidance being based on knowledge. Although we have gained a lot more knowledge, there is room for improvement when it comes to systematising data so that we can gain more insight across discipline areas.

Our challenge lies in utilising the opportunities offered by digitalisation and the increasing amount of available data, and in turning our own knowledge into data that can be shared with others. This requires us to continue

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25Not all costs had been included at the time when this overview of costs was produced.
our work on information and data quality and to standardise and digitalise work processes and data collection to a greater extent in order to enable us to analyse and make use of the data.

In 2019, we will examine our purchases of analysis services to see if it is possible to become even more effective and cost-effective. We will also start an initiative to make our knowledge base more systematic and structured.

The European Food Safety Authority’s reporting requirements (SSD2) and the laboratories’ new tools will necessitate changes to our computer systems. The development of a digital solution to enable digital data exchange with knowledge support institutions and laboratories have been put on hold for the time being.

It is challenging to find room for the major investments that digitalisation requires. Although it will take time, our efforts will be determined, and the most important strategic choices in our new strategy for the coming years are that we shall become more user-oriented, data-driven and standardised.

Development of regulations and international work

The NFSA’s administrative area is strongly influenced by regulations negotiated under the EEA Agreement. Norway also has commitments under other international agreements. We fulfil our EEA obligations and coordinate our work to ensure consistency across various international forums. We are endeavouring to rationalise and improve our work methods.

Goals

- We shall contribute to regulatory development to ensure a positive effect in relation to the goals that the regulations aim to achieve.
- Regulations should be easy to understand and simple to enforce.
- We shall have good procedures in place to ensure that Norway fulfils its obligations under the EEA Agreement as regards regulatory development and implementation.
- We shall contribute to international efforts in a prepared and coordinated manner.
- We shall contribute to the development of international standards and safeguard Norway's interests.

Results

Development of regulations

The most important measure at our disposal in the work to fulfil our social mission is the development, maintenance and follow-up of the regulatory framework that governs all players throughout the entire food chain from field and fjord to the table.

The EU regulatory framework in the food area is continuously being developed and modernised. As a result of the EEA Agreement, this regulatory framework also applies to Norway. We contribute to the EU’s regulatory work and safeguard Norwegian Interests. A lot of work went into the new EU Official Controls Regulation and new Animal Health Law.

We attended approx. 250 meetings in Brussels, which represents an increase of more than 30% compared with 2017. The increased level of activity is partly related to the drafting of underlying regulations for the new Official Controls Regulation and the new Animal Health Law for the EU, in addition to the European Commission’s ambition to complete the regulatory amendments before the elections to the European Parliament in spring 2019. We have come well prepared to these meetings.

We fulfilled the obligations under the EEA Agreement in a good manner. We drew up 373 EEA memos as part of the work to incorporate the EU regulations into the EEA Agreement, and submitted most of them by the set deadline. In 2018, 57% of new and revised EEA regulations were implemented in Norwegian national regulations. This is at the same level as in in 2017. We carried out a total of 216 regulatory adoptions. Delays have occurred, but few significant ones (see Figure 19).
We also develop national regulations in many areas that are not covered by the EEA Agreement or supplementary regulations to the EEA regulations. These regulations are discussed under the relevant discipline areas.

In order to gain a better overview of and insight into the regulatory framework, we have started work on an overview, compilation and analysis of our portfolio of laws and regulations. We are in the process of developing a six-month rolling plan for regulatory work in relation to Brussels to help us to coordinate efforts across disciplines and be even better prepared for important matters that come up. We have also discussed this plan with business and industry players to give them a better possibility to provide input.

Figure 19: Goal achievement for production indicators for regulatory development under the EEA Agreement in 2017 and 2018. Source: The Norwegian Food Safety Authority.

International collaboration

The NFSA is Norway’s Codex Contact Point and coordinates work on Norway’s positions. We take part in ongoing work between meetings and ensure proper preparation for meetings. The NFSA has represented the European region in the Executive Committee of the Codex Alimentarius Commission since 2015. We participate in work in the committees on food hygiene, food additives, pesticides, contaminants, pesticide residues, residues of veterinary drugs, nutrition, food labelling, and food import and export inspection and certification systems, and promote Norway’s interests.

Important cases adopted in 2018 include Guidance for Histamine Control in the Code of Practice for Fish and Fishery Products and limit values for mercury in certain species of fish. Norway, together with the EU, had reservations concerning maximum pesticide residue levels on grounds of potential health hazards for the population. We have cooperated with the EU in the Codex Committee on Residues of Veterinary Drugs in Foods to prevent the adoption of maximum residue limits for the growth stimulant Zilpaterol.

The NFSA hosted the annual meeting of the Working Party on Phytosanitary Regulations, which was attended by representatives from 16 countries and observers from the USA and the European Commission. We have provided input to several of the European plant health standards being developed, including the standards for international trade in timber and wood and a standard for official control of potato cyst nematodes.

Norway has worked to promote greater efforts in the aquaculture field on the part of the OIE. Norad allocated EUR 300,000 to OIE cooperation on projects relating to aquaculture and antibiotic resistance. In cooperation with the Norwegian Veterinary Institute, we are funding an expert on a three-year appointment at the OIE headquarters in Paris. The expert’s field of work is aquaculture.
Our expertise on fish health administration is in international demand. We signed a bilateral MoU with China to cooperate in the area of fish health. A fish health seminar was held in cooperation with the Chilean authorities at the Aqua Sur aquaculture fair in Chile. During this meeting, the National Fisheries and Aquaculture Service of Chile (Sernapesca), the NFSA and the Norwegian Veterinary Institute signed an expanded MoU. Norway has taken the initiative to establish a fish health network between all European countries where Atlantic salmon is farmed.

The Nordic cooperation will emphasise strategic topics and tasks that provide added value across national borders. We organised the Nordic supervision conference in Oslo in February and received good feedback.

The organisation Heads of European Food Safety Agencies has emphasised following up underlying regulations prepared on the basis of the new official food and feed controls regulation. We have participated in its steering committee as well as in several working groups. It has been useful to provide input and contribute to ensuring good regulation through participation in the informal working groups in addition to the formal work taking place under the auspices of the Commission.

Priorities for the time ahead
Experience shows that we need better overview and more insight into the NFSA’s portfolio of regulations. Our goal is to work in a more uniform and coordinated manner so that we will be able to see the same issues, principles and solutions across disciplines and different international forums. We will continue our efforts to improve the structure of the regulatory process in our quality system.

We will review our consultation round procedures in order to achieve better involvement and thereby better regulations. We will also continue our work on a six-month plan for our EEA work.

The new Official Controls Regulation on official controls to ensure the application of food and feed law and rules on animal health and welfare will come into force in the EU in December 2019. In the time ahead, a lot of attention and resources will go into the work to develop underlying regulations to the Official Controls Regulation.

Further work in relation to the OIE is still required to further increase efforts in the aquaculture area. We are working on funding to gain a better overview of the *Gyrodactylus salaris* situation in Russia. We will hold a fish health seminar in cooperation with Sernapesca during the Aqua Nor fair.

In Codex, we will prioritise matters of importance to Norway and Norway’s interests. We will participate in all the horizontal committees, the meeting of the European region, the Executive Committee (CCEXEC) and the Codex Alimentarius Commission (CAC). This is seen in conjunction with the regulatory work in Brussels. We are a driving force in the international work to combat antimicrobial resistance (AMR). Participation in the Task Force on AMR will be a priority.

We consider the work of the Codex Committee on Food Import and Export Inspection and Certification Systems (CCFICS) important to ensuring good market access. This includes work on electronic certification and use of external certification bodies.

Our capacity to follow up the IPPC’s work on plant health standards was reduced in 2018, but we expect an increase in activity as preparations for the UN International Year of Plant Health begin.
Supervision

We are moving towards a new and more knowledge-based control methodology. Fifteen years after the NFSA was established, digitalisation provides us with new tools to standardise, risk-base and rationalise our work to ensure that regulatory requirements are complied with.

Goals

- Supervisory activities shall be carried out in accordance with good administrative practice, in an efficient and uniform manner, and shall be risk-based to the greatest extent possible.

Results

Supervisory activities and regulatory compliance

The NFSA carried out around 67,000 supervisory activities. This figure includes inspections, audits, sample collection, document control in connection with import and export, and dealing with unexpected incidents. It represents a planned reduction of about five per cent compared with 2017. This reduction was planned based on budget cuts, a wish to make supervisory activities more risk-based and a wish to provide more guidance. We intensified our guidance efforts, both electronically and in meetings with industries and enterprises.

We consider goal achievement to be satisfactory. The greatest reduction was in the supervision of primary production of land animals. The control frequency in the smiley inspection scheme has been reduced, which has resulted in fewer inspections of enterprises in the food and beverage service industry. The scope of supervisory activities in the aquaculture area has increased by approx. 13% in line with overriding guidelines.

The situation is generally good, but we nevertheless frequently find violations of regulatory requirements. We found big or small regulatory violations in 48% of the enterprises that were subjected to supervisory activities. We made decisions to implement measures in 91% of enterprises where regulatory violations were found. The proportion of enterprises that comply with the regulations has increased in the areas of drinking water and fish health, and remained unchanged from last year in the animal welfare area.

We conducted unannounced inspections of 228 fattening pig holdings in Rogaland county. Inspectors identified one or more nonconformities in 166 of these holdings, which corresponds to 73%.

The most important findings were
- poor follow-up of sick and injured animals
- lack of rooting material (i.e. hay, straw etc. that pigs need to facilitate natural behaviour)

The final report shows a positive development in terms of care for sick and injured animals. The number of holdings in relation to which urgent decisions concerning how to deal with sick and injured animals were made, decreased from 50 to 29% during the project period.

Unannounced inspections are used as much as possible. Our inspectors have a challenging role. That is why we hold courses in communication during inspections and have organised special meetings for the inspectors who took part in the fattening pig inspection campaign in Rogaland county. We have seen several cases of our inspectors being subjected to negative attention, e.g. on social media.

Uniform control regime

We have implemented several measures to make our control regime more uniform, both discipline-related and administrative aspects. During the past two years, we have held courses/experience transfer seminars on
the use of measures for approx. 900 employees, and we have made it a goal that all our guidelines on how supervisory activities are to be carried out should be reviewed at least once every three years.

The regions have introduced new guidelines for quality assurance of supervision reports. We see a need for further improvements, including a more systematic internal control regime.

**Development of control methodology**

The new EU Official Controls Regulation, which will come into force in December 2019, sets stricter requirements regarding how we manage and carry out supervisory activities.

Digital developments and possibilities of obtaining data will bring noticeable changes to our inspectors’ everyday work. We are working on new control methods/ways of carrying out supervisory activities in order to adapt to these changes.

We are working on a risk classification system for categories of enterprises and subsequently for individual enterprises. The purpose of these efforts is to employ our supervisory resources where they will be most effective and allow more room for guidance and dialogue with enterprises. The system will also function as a multi-annual control plan that covers the whole area.

Standardised registrations and concluding reporting on site, as we already do under the smiley inspection scheme, can be used more. A development project called *Ferdig på stedet* (‘concluded on site’) is under way to make it possible to use this method in more areas.

We conducted a pilot project on supervisory activities relating to chains/groups of companies, and six major groceries, feed production and seafood production enterprises took part voluntarily. We improve our communication with the enterprises and have the possibility to access knowledge about the enterprises that we can use to tailor our control methods. We will continue our work on the challenges uncovered by this pilot project, including ensuring the necessary decision-making powers and adapting internal systems.

We organise some of our supervisory activities as control campaigns or regional and interregional teams. This is expedient in discipline areas where special expertise is required or where we are facing challenges relating to uniformity. We achieve calibration of supervisory activities and professional judgement.

**Appeal cases and their consideration**

The head office is the appellate body for all decisions made by the NFSA’s regions. The consideration of appeal cases is an important aspect of Norwegian public administration when it comes to safeguarding due process protection, clarifying matters of principle and ensuring that similar cases are treated in the same way. It gives us experience of applying the regulations, which is valuable when we amend and develop regulations and guidance material.

A total of 388 appeal cases were submitted to the head office for consideration. This is an increase of about 24% compared with the previous year. We reached decisions in 349 of the cases.

![Outcome of appeal cases](image-url)  
*Figure 21: The outcomes of the 349 appeal cases considered. Source: The Norwegian Food Safety Authority.*
Cases that are appealed are often of a complicated nature. The number of appeal cases varies greatly between discipline areas. The areas of animal welfare and aquaculture in particular have many and complex cases. We allocated extra resources to reducing case processing times for appeal cases.

![Figure 22: Number of appeal cases received and decided during the past three years. Source: The Norwegian Food Safety Authority.](image)

**Cases reported to the police and legal proceedings**

We reported a total of 86 cases to the police in 2018, up from 69 cases the previous year. The cases break down as follows:

- 57 animal welfare cases
- 7 animal health cases
- 11 food safety/quality cases
- 1 plant health case
- 7 cases of threats against/harassment of a public servant
- 2 cases of forgery
- 1 break-in at the NFSA’s premises

Twelve cases were dropped by the police, most of them animal welfare cases.

A total of 25 criminal cases concerning our administrative areas were heard by the courts. Of these cases, 18 concerned animal welfare, four concerned animal health, and three concerned threats against/harassment of a public servant.

Twenty-four cases ended in conviction, one only partially. Some of the cases have been appealed. In one case, the defendant was acquitted.

A total of four civil law suits were heard by the courts. Two of these cases concerned the validity of a ban on activities pursuant to the Animal Welfare Act. The court found in favour of the Norwegian state in both cases, and one has been appealed to the Court of Appeal.

The NFSA’s decision was deemed invalid in a case concerning the validity of a coercive fine in a fish health case (salmon lice). The Norwegian state has appealed the case to the Court of Appeal.

One case concerned the validity of an enterprise quarantine imposed on a food enterprise. The court found in favour of the Norwegian state. The party has appealed the case to the Court of Appeal.
Priorities for the time ahead
Standardisation is a key element in our ongoing official control development. Particular focus areas include:
- introducing a system for risk-based enterprise categories in the planning of supervisory activities in 2020
- continuing and expanding the pilot project for supervisory activities relating to chains/groups of companies
- continuing work on computer tools for concluding inspections on site in areas other than the food and beverage service industry
- cooperating with other agencies on exchange of data

It is also a prerequisite for rationalising the issuing of expert certificates.

More and more food and food supplements, seeds and plants and cosmetics are sold via the internet and social media. A lot of the products are bought from abroad, including from countries outside the EEA whose infection status and regulatory framework differ from ours. The sales chain is becoming more difficult to trace. This development represents new challenges to official control. We will look into how this form of sale can best be supervised.

Communication and guidance

We provide guidance during inspections, by phone, by email, via Facebook, on our website and in meetings with industries. We have also started work to make our guidance more systematic and plan the digital services of the future.

Goals
- Our communication and guidance shall contribute to the achievement of the NFSA’s effect goals.

The communication work shall live up to the central government principles regarding openness, coherency, participation and reaching all users.

Results
In 2018 as in previous years, the NFSA did well in Ipsos’ annual reputation survey of public agencies. In the survey, 75% of respondents stated that they have a good impression of the NFSA. This represents a minor increase from 2017.
**Information and guidance**

We shall inform, guide and seek to establish dialogue with enterprises, industries and stakeholders who are affected by our activities. Communication and guidance should make it easy for enterprises to comply with the regulations. Our most important communication channels are supervisory activities, websites, mass media, social media and different arenas where people meet.

We continued to strengthen our guidance work. We provided more guidance during inspections and made more systematic efforts to be user-oriented when producing guides, for example through our plain language work.

At the national level, we hold regular meetings with different industries a couple of times per year, and the agenda is drawn up in consultation with the industries in question. We receive good feedback on this form of contact. At the regional and local level we attended many meetings and seminars where we provided information about regulatory requirements and answered questions. We have prepared standard presentations to help our employees who take part in such meetings. This helps us to ensure that the message we communicate is as unambiguous as possible.

In order to ensure that affected parties are informed when we are working on regulatory amendments, we made it a priority task in 2018 to introduce automatic notification of consultative bodies.

Our question and answer services for travel with pets, food and animals are staffed by inspectors who use our website in their guidance work. This allows us to answer general questions from the public and enterprises quickly and uniformly. At the same time, we register frequently asked questions so that we can improve the content on our website.

**Informed decisions**

We shall also help to enable the population to make informed decisions.

In order to do this, we have published the results from smiley inspections and reports on status and warnings via mattilsynet.no, matportalen.no, the media and through social media. We also improved how we create and update warnings to consumers.

The media play an important role in informing the population about the status in our areas of responsibility and participating in public debate. We distributed 92 press releases, which were communicated by the local and national media and reached large sections of the population. In total, the NFSA was mentioned in the media just over 18,000 times in 2018, compared with 16,500 in 2017.

**Digital communication**

Contact via our online services is to be the general rule when users have tasks to carry out.

The NFSA website is our most important channel of communication with users. There were 1,507,067 visits to mattilsynet.no. We come into contact with far more people via this channel than through supervisory activities and meetings. Therefore, our website is being improved on a continuous basis, with priority being given to the content that is most in demand. The more people can find the answer to their question immediately, the more time users save. It also helps to reduce the number of telephone and email enquiries received, allowing us to devote more resources to other measures.

An increasing proportion of users state that they succeeded in achieving the purpose of their visit to mattilsynet.no. In addition to the website, we use a special Facebook page to provide guidance on the regulations concerning travel with pets. That is our most popular content.

Matportalen.no helps to ensure that consumer information that is in demand is easily available. Matportalen.no had 1,100,570 visitors in 2018, a small decrease compared with the preceding year. Facebook also provides an effective channel for distributing content from this website.

We take part in the running of the Norwegian Food Composition Table and the free dietary calculation programme *Kostholdsplanleggeren*. These services are popular with consumers, educational institutions and the industries. The food industry particularly uses the Norwegian Food Composition Table to prepare nutrition declarations. The Norwegian Food Composition Table was updated with 93 new and 231 revised entries. It was expanded with new values for cooked meats, gluten-free products, cakes and desserts. Iodine values have been added for nearly all the foods in the table.
Realising the NFSA’s goals and strategies
Managers and employees should understand how they will contribute to realising the NFSA’s goals and strategies.

All managers have received training and tools to improve their ability to present overriding messages and involve the employees.

Priorities for the time ahead
Expectations of the NFSA are changing. We have received some criticism for lack of predictability for enterprises. How do we interpret the regulatory framework? We want to develop our dialogue with users in order to clarify the division of roles between us and how we interpret the regulatory framework.

One of the greatest challenges is to meet the need for adapted online guidance that is easy to find and easy to share. We will therefore make systematic efforts to determine how we can make efficient use of guidance.

We will also make it possible for all our users to find and share information about the status and development of our social mission. The purpose of this is to intensify our efforts and increase precision in the new digital solutions we will build in the coming years.

We will also continue to develop tools to enable the whole organisation to use plain language. In doing so, we aim to accommodate our users and contribute to improved understanding of the messages we are communicating.

Contingency planning and dealing with incidents
All links in the chain must function and cooperate if we are to be able to identify and deal with incidents. Prevention is better than cure, but when incidents nevertheless do happen, we have an organisation in place that is capable of dealing with them. The NFSA deals with big and small incidents on a continuous basis.

Goals
- We shall have a robust organisation capable of dealing with incidents in a changing world.

Results
Dealing with incidents
The NFSA dealt with 218 incidents, of which 31 were of high and 107 of medium severity. In addition, the national Officer on Duty dealt with 645 enquiries received outside office hours. The figure below shows the incidents of high and medium severity broken down by discipline area.

![Number of incidents of high and medium severity 2018](image)

Figure 24: Incidents of high and medium severity in 2018. Source: The Norwegian Food Safety Authority.

The food and drink area had the highest number of incidents dealt with, followed by animal health incidents. The category ‘Other’ included two infants with suspected botulism, two children who attended kindergarten who were infected with EHEC, and two cases of people falling ill after bathing in the sea.
We use MatCIM and the Nødnett emergency communication network in our contingency work, during exercises and when dealing with incidents.

The introduction of the incident management tool MatCIM has significantly improved our ability to deal with incidents, as well as rationalised our day-to-day work.

Our exercise schedule was dominated by the NATO exercise Trident Juncture

In addition to 51 smaller exercises, we have taken part in the preparations for and implementation, evaluation and follow-up of the NATO exercise Trident Juncture. This exercise was a significant boost to Norwegian contingency work. Preparations started several years in advance and involved a number of central government agencies, knowledge support institutions, industries and organisations. Our task was to cooperate with the Norwegian Armed Forces and provide good host country support. This collaboration has strengthened cooperation between the civilian authorities and the Armed Forces as well as between the civilian agencies.

The NATO exercise included a three-day field CBRNE exercise, a command post exercise (CPX) on the topic of African swine fever, and a field exercise (LIVEX) that involved large parts of our supervisory system over a ten-day period. We involved the livestock industry, the horse industry, feed suppliers, the Norwegian Institute of Bioeconomy Research (NIBIO), the Norwegian Veterinary Institute, the Norwegian Armed Forces and the Norwegian Public Roads Administration as the parties responsible for the industry’s logistics in order to ensure that the transport of milk, products, feed and animals went as smoothly as possible. We also had a corresponding meeting with the fishing industry, the Directorate of Fisheries and the Norwegian Coastal Administration. In addition, we met with Eurofins to prepare them for a possible increase in the number of drinking water samples before and during the exercise and to ensure that the units had a sufficient supply of sampling equipment.

Liaison personnel from the NFSA participated at the Norwegian Armed Forces’ Joint Headquarters in Bodø and the Norwegian Armed Forces Joint Medical Services at Sessvollmoen.

NATO has given positive feedback on Norway’s total defence, and the Norwegian Armed Forces and the Norwegian Directorate for Civil Protection gave good feedback on the NFSA’s efforts.

Priorities for the time ahead

The NFSA and the Norwegian Armed Forces’ veterinarians defined points for improvement after Trident Juncture during the Armed Forces’ veterinary conference in February 2019. These points will form the basis for our contingency development work in the time ahead.

In 2019, we will conduct an exercise on how to deal with an outbreak of foot and mouth disease. We are obliged to hold such exercises at least once every five years. We will also conduct exercises in using the Nødnett emergency communication network.

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**MatCIM**

**CBRNE** is a collective term that covers chemical substances (C), biological agents (B), radioactive substances (R), nuclear material (N) and explosives (E) that are potentially highly hazardous and could cause injury, loss of life or damage to health, the natural environment, property and other interests in society in the event of natural events, accidents or deliberate actions, including terrorism.
4 MANAGEMENT AND CONTROL

Our management and control system provides us with a basis for prioritisation and for assessing whether we achieve our defined goals and performance requirements, make efficient use of our resources and comply with laws and regulations. We will continue our work on digitalisation and better use of data and help managers and employees to develop their competence in preparation for a more digital working life.

Goals
- We shall manage the NFSA in such a way that we fulfil our social mission in an efficient manner.

Results
We are satisfied with our performance in 2018, which was largely the result of good management and control, as well as committed and capable staff and managers. Nevertheless, we see a need for further development of parts of our corporate governance, for example risk assessment and internal control.

We comply with the provisions of the Security Act, and our assets are satisfactorily protected. We have not recorded any serious security nonconformities in 2018.

The Office of the Auditor General of Norway had no remarks relating to the annual accounts for 2017, and the interim and year-end audits did not identify any material errors or weaknesses.

ESA conducted three audits. They found some shortcomings in our planning, management and follow-up of supervisory activities. The reports from ESA are useful in our efforts to improve our supervision.

Table 3: Areas and regulatory framework for ESA’s audits in 2018.

<table>
<thead>
<tr>
<th>Period</th>
<th>Area</th>
<th>EU law</th>
</tr>
</thead>
<tbody>
<tr>
<td>16–25 April</td>
<td>Animal transport</td>
<td>1/2005</td>
</tr>
<tr>
<td>3–7 December</td>
<td>Antimicrobial resistance</td>
<td>2003/99 and 2013/652</td>
</tr>
</tbody>
</table>

The NFSA’s corporate governance is good
We managed to direct our efforts towards our priority areas, namely the health situation in the aquaculture industry, security of supply of safe drinking water and dealing with chronic wasting disease. We made systematic efforts to become more efficient. Tables 5–9 in Appendix 3 Statistics show the development in full-time equivalents. Tables 12–15 in Appendix 3 illustrates different aspects of developments in staffing and gender distribution. The proportion of resources used for core activities increased to 67.4% compared with 67.0% the preceding year, and we spent somewhat more resources on guidance and somewhat less on supervision. Our financial management was good, and we kept within our budget.

Following the annual evaluation and adjustment of the internal corporate governance procedures, our internal performance requirements became clearer and our internal reporting more efficient. The assessments of challenges from the annual report for 2017 formed part of the basis for planning of activities for 2018.

We have a quality management system
We comply with the ISO standard for quality management systems. Quality is an integral aspect of our corporate governance.

27 By core activities is meant regulatory development, international cooperation, supervision, communication, guidance, knowledge collection and status analysis.
Systematic review of guidelines and guides is a priority task. The annual review of quality management (the management’s review) takes into account results from user surveys, internal audits, nonconformity analyses, goal achievement and potential for improvement. This review provides a basis for considering and implementing necessary measures and forms part of the management and control system.

The quality system will be upgraded and made more user-friendly, and integration with other management system will be enabled. We also identified a need for risk-reduction measures to adapt to the current privacy protection legislation (GDPR).

**Internal audit to ensure good internal control**

The internal audit was conducted in accordance with plans and worked as intended. The report is appended to the annual report.

We have also mapped the internal control status and identified points for improvement. We will to a greater extent integrate internal control into our overall corporate governance. An action plan was made to ensure better documentation and more systematic internal control.

We also conducted an internal evaluation of the internal audit entity to provide a basis for further improvement.

**Resource use on core task**

The table below shows the resources used on core and development tasks as well as on administration and management.

<p>| Table 4: Resource use (percentage of available full-time equivalents) for the years 2016–2018. Source: The Norwegian Food Safety Authority. |</p>
<table>
<thead>
<tr>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development of regulations and international collaboration</td>
<td>3.4%</td>
<td>3.2%</td>
</tr>
<tr>
<td>Supervision</td>
<td>52.8%</td>
<td>52.7%</td>
</tr>
<tr>
<td>Communication and guidance</td>
<td>6.5%</td>
<td>6.9%</td>
</tr>
<tr>
<td>Gathering knowledge and analysing status</td>
<td>4.2%</td>
<td>4.2%</td>
</tr>
<tr>
<td><strong>Total, core activities</strong></td>
<td><strong>67.9%</strong></td>
<td><strong>67.0%</strong></td>
</tr>
<tr>
<td>Development activities</td>
<td>8.3%</td>
<td>8.9%</td>
</tr>
<tr>
<td>Administration and management</td>
<td>24.8%</td>
<td>24.1%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

For the past two years, we have prioritised guidance and communication targeting industries and individual enterprises, and there has been a steady increase in the resources allocated to these activities. Intensified efforts to alleviate the fish health and welfare problems in the aquaculture industry have been and still remain one of our priority discipline areas. The resources used increased by approx. 15% compared with the preceding year. We have also increased staffing in this field, but there is fierce competition for personnel with relevant expertise.

The increase in resources used on developing digital solutions was smaller than planned because we had to take immediate action to adapt to a smaller budget. We started work to improve the financial forecasts on which our budget allocations are based. We need to make more funds available for development within a reduced budget.

We used 97% of our budget, and we consider this a satisfactory degree of utilisation. Operating expenses increased by 2.7%. Payroll expenses per full-time equivalent increased by 3.1%. The financial key figures are shown in the table below.

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28 For more details, see the appendix for the internal audit entity’s annual report.
29 Figures for 2016 and 2017 deviate from the figures presented in the annual report for 2017 due to changes in the breakdown of activities.
30 This category includes resources used on discipline calibration of supervision.
31 By administration and management is meant operational tasks in IT, security, documentation/archives, switchboard, office management, HSE, HR, purchasing, finance and management.
### Increased productivity frees up resources

We register time used for all our activities as a basis for measuring productivity. In 2015, we introduced a standardised method for measuring supervision productivity in the area ‘Retailers, establishments that serve food, transport and storage’. Smiley inspections are one of our most standardised supervisory activities and are also well suited for productivity measurement.

![Number of inspections per person-week in the area 'retailers, establishments that serve food, transport and storage'](image)

The figure shows that productivity in ‘retailers, establishments that serve food, transport and storage’ has increased since 2016, largely as a result of the introduction of the smiley inspection scheme. There was a marginal decrease in productivity in 2018 which is related to the smiley inspection frequency being reduced from every eight to every twelve months. This freed up resources for the more resource-intensive inspections.

### Development work is necessary

We need to increase our pace of development, particularly when it comes to introducing technology. Better use of our own and other parties’ data can make us more knowledge- and user-oriented, allowing us to make our activities more risk-based and rationalise and improve our work processes.

We introduced portfolio management to ensure better resource utilisation, increase development pace and help us to choose the right development measures. A common project model was also established to ensure that development measures are implemented and managed in an expedient manner. These measures are based on the project guide *Prosjektveiviseren* and other recommendations from Difi. They gave us a better overview of development projects and made it easier to prioritise. We are still in the start-up phase and expect to see further effects in the time ahead.

### Savings are dependent on cost-efficiency

We followed up the administrative savings conditions in the national budget. We reviewed our office structure and merged small office locations. Further mergers are under consideration.

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32 Accounting figures from the reporting of general ledger accounts have been used for key figures for operating expenses and payroll expenses.

33 The increase is primarily caused by the premium to the Norwegian Public Service Pension Fund being recognised as an integral part of our payroll expenses from 2017.

34 The Agency for Public Management and eGovernment (Difi)
We have obtained a knowledge base that will enable us to improve work processes for administration and management. We also considered the potential for improving the cost-efficiency of our purchases of goods and services. Together, these efforts formed a good basis for assessing and implementing cost-efficiency measures.

We need the right expertise
We shall have the right expertise at the right level. In order to ensure that we have the required expertise at all times, competence development and improvement of our recruitment procedures are continuous processes.

We followed up mapping of critical expert groups with measures to recruit veterinarians and fish health biologists. We are in the process of establishing a more systematic cooperation with the Norwegian University of Life Sciences (NMBU) to raise our profile as an attractive employer and highlight our competence needs. We will go on to develop similar cooperation schemes with the University of Bergen and UiT The Arctic University of Norway.

We have also cooperated with NMBU on relevant digital courses which are available to internal as well as external parties. We have also organised a number of internal training measures.

We launched a new introduction programme for new recruits that will cover all of their training during the first twelve months.

Systematic HSE work
We shall have a healthy workplace with good job satisfaction, and sickness absence should be below 4.9%.

We have HSE action plans with measures intended to help us to achieve our goal of reducing sickness absence. The sickness absence issue was followed up in working environment committees both at the central and local level. Sickness absence was reduced from 6.3 to 6.1%, but we are not satisfied yet. We are following up sickness absence with more measures intended to bring about further reduction. This is a long-term effort that we hope to reap the benefits of in the years ahead. New procedures for digital follow-up of sickness absence have also been introduced, and we hope that they will improve the quality of our follow-up of sickness absence.

We are continuously working to improve HSE work, and we have a ‘vision zero’ for work-related illness and injuries. All accidents and undesirable incidents are to be reported. We have started work to provide training for those of our employees who could experience job-related harassment, threats and violence.

Anti-discrimination work
The NFSA's anti-discrimination work is governed by the Inclusive workplace (IW) agreement, our guidelines for recruitment, internal reporting procedures and the nonconformity system. Applicants who have a functional impairment or come from a minority background can indicate this in their application so that we can comply with the requirement to invite them for an interview if they are qualified for the position. The goal defined for the Government's joint inclusion effort Inkluderingsdugnaden is that at least five per cent of all appointments to permanent positions in government agencies should be persons with a functional impairment or a gap in their CV. We appointed 14 new employees during the last half of 2018. One of them had a functional impairment, which means that we achieved the five-per cent goal.

We have one apprentice in office and administrative skills at the head office. When the apprenticeship is completed in 2019, we plan to recruit another apprentice.

We have established a common internal notification system that makes it possible for whistle-blowers to be anonymous. An internal notification committee has been established. The external notification solution will become available in early 2019.

Combating work-related crime (joint requirements)
Our standard contracts with suppliers contain an explicit requirement for ‘normal pay and working conditions’. This means that they must ensure that their own employees and any subcontractors are covered by pay and working conditions that are in accordance with regulations giving collective agreements general application. In areas not covered by such regulations, the supplier must ensure pay and working conditions in accordance with the applicable collective agreement for the industry in question. We have also drawn up internal instructions for follow-up of our cleaning service providers.
We have safety and contingency work under control

We conducted 51 contingency exercises in addition to the big NATO exercise Trident Juncture, which also presented an opportunity for safety and contingency training. In particular, it tested our lines of communication and communication systems.

We conducted a security exercise to test our employees’ security culture, and we also evaluated the physical security of most of our locations. Competence-raising measures focusing on security were provided for all during the security month of October. We also comply with the Norwegian National Security Authority’s recommended measures to prevent cyberattacks.

The new provisions regarding protection of privacy make strict demands of information security and documentation, including our handling of confidential information. A data protection officer has been appointed, and we have conducted 25 risk and vulnerability analyses of our specialist systems in order to assess the risk of personal data falling into the wrong hands, being manipulated or not being available when we need them, and we have conducted 20 analyses for ICT systems. Measures have been implemented on the basis of these analyses.

Digitalisation and ICT are becoming increasingly important

The use of digitalisation as a source of development is discussed under the respective discipline areas and processes.

Over the past two years, we have made purposeful efforts to facilitate increased flexibility in our IT solutions and a clearer ownership of data in the discipline entities. Governing processes have been established for portfolio management, change management and project implementation. In addition, a goal and strategy process for the ICT area has focused on user orientation, increasing purchases of standardised services and shifting resource use from operations to development.

Together with providers of supervisory solutions, new delivery methods have been established to allow more frequent changes to systems in line with general developments in IT. New supervisory systems that are under development are being produced on modern platforms that are flexible in terms of accessibility, data sharing, continuous change and use of cloud services.

Priorities for the time ahead

We will base our management on knowledge to an even greater extent than before. We will continue to channel resources to our core activities and development and prioritise our resource use based on an overall assessment of development trends and challenges. To achieve this, we need even better management information, and relevant analyses must be more easily accessible. In addition, we will draw up a general risk assessment framework that can be used in different areas and at different levels.

In order to comply with the new protection of privacy provisions, we need to review the regulations we are charged with administering in order to ensure that we have the legal basis required to process personal data. Even with the basis for our protection of privacy work and a plan for the work in place, the improvement work will continue for a long time.

We will make it easier for people who produce food and keep animals to comply with the regulations. We will become more data-driven, acquire new knowledge and make use of it. To do this, we need to increase our pace of development and digitalisation and ensure a flexible use of resources across discipline areas so that we can focus our efforts where the return will be greatest. The need to develop work methods, tools and management and staff competence in order to deal with a more digitalised workplace will require strict prioritisation and considerable investments in human resources as well as methodology and technology. This will also entail a reduction of our traditional activities. The mapping of future competence needs will be based on the new strategy.
Food safety is not a static entity, but is influenced by developments in society. Climate change and developments in areas such as trade and technology are among the factors that have an effect on players throughout the food chain. Their and our own ability to detect, prevent and deal with hazards while at the same time seizing opportunities when they present themselves is crucial in our joint efforts to ensure a society where food is safe and animal welfare safeguarded.

Climate changes conditions
Temperature and precipitation are two of the factors that have the most profound effect on food production. The summer of 2018 saw the worst drought for decades, resulting in crop failure, loss of income and problems getting enough feed for livestock. The opposite situation occurred in 2017, when large parts of Southern and Western Norway set rain records and many farmers were unable to complete the harvest or put their animals out to pasture because conditions were too muddy. Such situations will probably become more common in future.

More extreme weather conditions, floods, avalanches and landslides will be challenging the drinking water supply network’s critical function in society. An extensive maintenance backlog makes the distribution network too exposed to external events. This increases the risk of the drinking water supply being contaminated or being interrupted by pipe breaches.

Technology must take biology into consideration
Our current animal husbandry and food production practices are a result of humans developing and using technology to harvest biological resources. The development from simple farming and fishing to fish farming and international food production has presented both possibilities and challenges.

Food production and animal husbandry concern living organisms that are influenced by many factors, including how we treat them. In order to ensure food safety and animal health, we must understand and take account of the animals’ biology and develop technology on biology’s terms. Failing to do so could harm animals and limit production. This is to a certain extent demonstrated in today’s salmon farming, where fish welfare problems resulting from mechanical delousing methods are challenging.

Trends increase the need for knowledge
Consumers’ food choices are changing. New products are developed, new food sources are used and dietary habits are changing. Moreover, consumers’ choices are often influenced by considerations for sustainability, climate and animal welfare, among other things.

The food in shops usually comes in some form of plastic packaging. However, plastic is an environmental problem. Therefore, the EU is in the process of adopting a ban on certain single-use plastic items. Replacing plastic with other materials can present new challenges in terms of food waste, the climate and possible chemical hazards.

The need for knowledge about substances in our food and packaging that could represent a health risk is increasing, and such knowledge is necessary to ensure food safety and good administration.

Vulnerable to developments in trade
International trade in food, plants and animals helps to allow countries to make use of their competitive advantages, but it also represents an increased risk of infection and serious viral and bacterial diseases being spread across national borders.

Norway is a net exporter of fish, but nevertheless depends on importing food to feed its population. The strong Norwegian economy and our willingness to pay have allowed us to import the food we need. This situation could change if the global food production were to decrease. Experience from previous global crises show that agreements can be broken. This makes countries that are dependent on importing food vulnerable.
Antibiotic resistance is a global problem that is growing quickly. The antibiotic resistance situation for Norwegian animal holdings and food production is good. Other countries have not seen the same positive development. Our open borders make it a challenge to maintain Norway’s good status in this area.

The growth in national and international online shopping makes it even more difficult to keep an overview and check whether the products are safe.

**Developing on several fronts**

In order to fulfil our social mission, we need to understand what is going on in society and how it influences players in the food chain and thereby our food safety. It is a prerequisite for understanding users’ needs so that we can organise our measures in a user-oriented manner.

Norway is one of the world’s most digitalised countries. Information and communication technology is common in business and industry as well as in households. The public sector is expected to be as accessible and user-friendly as other services that the population uses.

The future will bring opportunities as well as challenges, and we will have to develop on several fronts. Knowledge has a short shelf-life, and if we are to fulfil our social mission, we have to work in a knowledge-based and targeted manner. We must also become more data-based in order to achieve this. We can gain new knowledge and better professional insight by becoming better at data collection, compiling our own data and data from industries, knowledge support institutions and other public agencies.

Better insight into the challenges and needs of users will enable us to target measures to address the most important challenges. However, we must be aware that aligning data in new ways will raise questions relating to protection of privacy, rules and regulations, trade secrets and moving boundaries, and that we will have to make conscious decisions about what information we use and share.

We shall have user-oriented solutions in place to make everyday life simpler for ourselves and our users. We shall benefit from technology by digitalising and automating work processes and services. We will use technology for the tasks that technology can do best and use human resources and judgement to resolve complex issues and provide guidance.

Users, business and industry, the owner ministries and our own employees all expect a great deal of the NFSA. Limited resources and necessary investments in digital tools mean that strict prioritisation will become increasingly necessary in order to ensure that we fulfil our social mission in a satisfactory manner.

Our prospects give cause for both concern and optimism, depending on how we adapt. We look forward to continuing to support the best interests of society.
APPENDIX 1: EFFECT INDICATORS

SAFE FOOD AND DRINKING WATER

Appendix 1, table 1: Number and proportion of examined samples that contained illegal levels of contaminants (such as pesticide residues, dioxins, PCBs and pharmaceutical residues) Source: The Norwegian Food Safety Authority.

<table>
<thead>
<tr>
<th></th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pesticide residues, domestic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of samples</td>
<td>526</td>
<td>459</td>
<td>423</td>
<td>434</td>
<td>445</td>
</tr>
<tr>
<td>% of samples that exceed the limits</td>
<td>0,2</td>
<td>0,2</td>
<td>0,5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Pesticide residues, import</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of samples</td>
<td>864</td>
<td>846</td>
<td>905</td>
<td>849</td>
<td>907</td>
</tr>
<tr>
<td>% of samples that exceed the limits</td>
<td>2,5</td>
<td>2,2</td>
<td>4,8</td>
<td>2</td>
<td>2,8</td>
</tr>
<tr>
<td>Pharmaceutical residues land animals, domestic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of samples</td>
<td>3 987</td>
<td>4 118</td>
<td>3 947</td>
<td>3 989</td>
<td>4 030</td>
</tr>
<tr>
<td>% of samples that exceed the limits*</td>
<td>0,8</td>
<td>1</td>
<td>1,4</td>
<td>1,4</td>
<td>4</td>
</tr>
<tr>
<td>Pharmaceutical residues land animals, import</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of samples</td>
<td>111</td>
<td>90</td>
<td>93</td>
<td>103</td>
<td>120</td>
</tr>
<tr>
<td>% of samples that exceed the limits</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

* The exceedances increased for 2018 since we started this year with analyses of copper in samples of liver and honey. The levels of copper exceed the limit values of the pesticide regulations but reflect only naturally occurring copper in the environment. There are no health hazards associated with the exceedances.

Appendix 1, table 2: Number of reported shipments that have caused food allergies/intolerance due to reactions to undeclared allergens

Source: National Register of Severe Allergic Reactions to Food, Norwegian Institute of Public Health.

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of shipments reported to the National Register of Severe Allergic Reactions to Food</td>
<td>159</td>
<td>135</td>
<td>92</td>
<td>- 35</td>
</tr>
</tbody>
</table>

Appendix 1, table 3: Number of registered cases of illness following infection with Salmonella, Campylobacter, Yersinia, Shigella, Listeria, EHEC (Norwegian Surveillance System for Communicable Diseases)

Source: Surveillance System for Communicable Diseases (MSIS), Norwegian Institute of Public Health.

<table>
<thead>
<tr>
<th>Sykdom</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Campylobacteriosis</td>
<td>1 371</td>
<td>884</td>
<td>986</td>
<td>1 512</td>
<td>1 173</td>
</tr>
<tr>
<td>E. coli EHEC</td>
<td>97</td>
<td>126</td>
<td>161</td>
<td>237</td>
<td>265</td>
</tr>
<tr>
<td>E. coli-enteritis except EHEC</td>
<td>100</td>
<td>99</td>
<td>79</td>
<td>200</td>
<td>182</td>
</tr>
</tbody>
</table>

*No figures for 2018 because the Food allergy register was closed on 1st of January 2018
### Sykdom

<table>
<thead>
<tr>
<th>Sykdom</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listeriosis</td>
<td>20</td>
<td>12</td>
<td>16</td>
<td>12</td>
<td>21</td>
</tr>
<tr>
<td>Salmonellosis</td>
<td>230</td>
<td>184</td>
<td>175</td>
<td>254</td>
<td>224</td>
</tr>
<tr>
<td>Shigellosis</td>
<td>12</td>
<td>11</td>
<td>12</td>
<td>22</td>
<td>20</td>
</tr>
<tr>
<td>Yersiniosis</td>
<td>177</td>
<td>49</td>
<td>33</td>
<td>29</td>
<td>68</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2007</td>
<td>1365</td>
<td>1462</td>
<td>2266</td>
<td>1953</td>
</tr>
</tbody>
</table>

* The figures for 2018 have not been broken down by foreign/domestic infection (last updated 27.02.2019).

### Appendix 1, table 4: Number of notifications sent of health hazards detected in food and feed on the Norwegian market (RASFF)

**Source:** European Rapid Alert System for Food and Feed (RASFF).

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of RASFF notifications of findings associated with health hazards sent from Norway</th>
<th>Number of RASFF notifications for allergens that affects Norway</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>68</td>
<td>-</td>
</tr>
<tr>
<td>2017</td>
<td>37</td>
<td>-</td>
</tr>
<tr>
<td>2018</td>
<td>34</td>
<td>7</td>
</tr>
</tbody>
</table>

### Appendix 1, table 5: Percentage of the Norwegian population connected to waterworks with satisfactory analysis results for drinking water quality (E. coli, colour, turbidity and pH level)

**Source:** The Norwegian Food Safety Authority.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>2016</th>
<th>2017</th>
<th>2018*</th>
</tr>
</thead>
<tbody>
<tr>
<td>E. coli</td>
<td>99,0</td>
<td>99,4</td>
<td>99,3</td>
</tr>
<tr>
<td>Colour</td>
<td>98,2</td>
<td>98,9</td>
<td>98,8</td>
</tr>
<tr>
<td>pH</td>
<td>91,9</td>
<td>94,1</td>
<td>94,5</td>
</tr>
<tr>
<td>Turbidity</td>
<td>98,9</td>
<td>98,6</td>
<td>98,2</td>
</tr>
</tbody>
</table>

* Incomplete numbers due to ongoing work on reporting.
GOOD PLANT, FISH AND ANIMAL HEALTH

Appendix 1, table 6: Serious pests detected in new locations in Norway

Source: The Norwegian Food Safety Authority.

<table>
<thead>
<tr>
<th>Pests</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fruit and berries</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plum pox potyvirus</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Apple proliferation phytoplasma</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Pear decline</td>
<td>10*</td>
<td>2*</td>
<td>1</td>
</tr>
<tr>
<td>Plum American line pattern ilarvirus</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Strawberry crinkle virus</td>
<td>3*</td>
<td>0*</td>
<td>0</td>
</tr>
<tr>
<td>Strawberry mild yellow edge virus</td>
<td>1*</td>
<td>0*</td>
<td>0*</td>
</tr>
<tr>
<td>Strawberry vein banding virus</td>
<td>0</td>
<td>0*</td>
<td>1*</td>
</tr>
<tr>
<td>Eriosoma lanigerum</td>
<td>1</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Chaetosiphon fragaefolii</td>
<td>0</td>
<td>0*</td>
<td>0*</td>
</tr>
<tr>
<td>Xanthomonas fragariae</td>
<td>0*</td>
<td>0*</td>
<td>1*</td>
</tr>
<tr>
<td><strong>Park and gardens</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phytophthora ramorum</td>
<td>40*</td>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td><strong>Greenhouses</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tospovirus</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Pepino mosaic virus</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Tomato chlorotic dwarf viroid</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>South American leaf miner</td>
<td>0</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Thrips setosus</td>
<td>0</td>
<td>0</td>
<td>8*</td>
</tr>
<tr>
<td><strong>Potatoes</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yellow potato cyst nematode</td>
<td>8*</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Potato cyst nematode (species not determined)</td>
<td>2</td>
<td>1</td>
<td>13</td>
</tr>
<tr>
<td>Sclerotium cepivorum</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td><strong>SUM</strong></td>
<td>66</td>
<td>29</td>
<td>40</td>
</tr>
</tbody>
</table>

* Year in which the monitoring program was implemented for the pest.

Findings of Fire blight are not included in the table. Report from Action Fire blight 2017 provides information on detection of Fire blight.

Appendix 1, table 7: Number new cases of serious infectious diseases in domesticated and wildlife land animals.
Source: The Norwegian Veterinary Institute
<table>
<thead>
<tr>
<th>Species</th>
<th>Disease/agent</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cattle</td>
<td>Bluetongue</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Poultry, chickens</td>
<td>ILT (non-commercial flocks in parenthesis)</td>
<td>0(10)</td>
<td>0(13)</td>
<td>0(1)</td>
</tr>
<tr>
<td></td>
<td>Bird flu, low pathogenic</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Alpaca/lama</td>
<td>Psoroptes ovis</td>
<td>6</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cattle</td>
<td>BVD</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Salmonella</td>
<td>1(diariz.)</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Paratuberculosis</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Ringworm</td>
<td>4</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>Pigs</td>
<td>Influenza in pigs*</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Salmonella</td>
<td>0</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Necrotising enteritis</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sheep</td>
<td>Classical scrapie</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Scrapie Nor98</td>
<td>14</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Salmonella diarizonae</td>
<td>2</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Paratuberculosis</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Foot rot</td>
<td>2</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Visna virus</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>CAE</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Goats</td>
<td>Paratuberculosis</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Foot rot</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Scrapie Nor98</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>CAE</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Horses</td>
<td>Strangles</td>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Salmonella</td>
<td>0</td>
<td>0</td>
<td>26</td>
</tr>
<tr>
<td>Fur animals</td>
<td>Fox mange</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Poultry</td>
<td>IB (non-commercial flocks in parenthesis)</td>
<td>0(21)</td>
<td>0(19)</td>
<td>1(1)</td>
</tr>
<tr>
<td></td>
<td>Mycoplasma (non-commercial flocks in parenthesis)</td>
<td>0(15)</td>
<td>0(11)</td>
<td>0(1)</td>
</tr>
<tr>
<td></td>
<td>Salmonella</td>
<td>3</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Turkeys</td>
<td>Chicken cholera</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Salmonella</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Species | Disease/agent | 2016 | 2017 | 2018
--- | --- | --- | --- | ---
Geese | Salmonella | 0 | 0 | 1
Rabbit | Rabbit Haemoragic Disease | 7 | 0 | 0
Hare | Tularemia | 6 | 17** | 7

* The figures in the columns give the number of samples that tested PCR-positive for influenza A. The monitoring programme for specific viral infections in pigs show that pigs in 50% of holdings have antibodies against influenza A(H1N1)pdm0

** Four out of 17 detection came from the same farm

Appendix 1, table 8: Number of outbreaks and cases of serious infectious diseases in farmed and wild fish

Source: The Norwegian Veterinary Institute

<table>
<thead>
<tr>
<th>Disease</th>
<th>List</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmed fish (salmonids)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ILA</td>
<td>2</td>
<td>12</td>
<td>14</td>
<td>13</td>
</tr>
<tr>
<td>VHS</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>PD</td>
<td>3</td>
<td>138</td>
<td>178</td>
<td>163</td>
</tr>
<tr>
<td>PRVom* (virus Y)</td>
<td>-</td>
<td>9</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Furunkulosis</td>
<td>3</td>
<td>0**</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>BKD</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Farmed fish (marine species)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Francisellosis</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>VNN/VER</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Wild salmonids (river systems)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gyrodactylus salaris</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Furunculosis</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Crustaceans</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crayfish plague (signal crayfish)</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

* The virus was detected by means of PCR in selected locations as part of the MC programme, but the disease associated with the virus was not found. We have completed monitoring in this area and therefore do not have figures for 2017 and 2018.

** Aeromonas salmonicida subsp. salmonicida was isolated from sick lumpfish kept together with salmon in four facilities.

GOOD ANIMAL WELFARE

Appendix 1, table 9: Loss of animals at pasture, number and proportion

Source: the Norwegian Agriculture Agency, including organised pasture husbandry, and the Norwegian Reindeer Husbandry Administration.

<table>
<thead>
<tr>
<th></th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018***</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of sheep at pasture</td>
<td>546 138</td>
<td>557 032</td>
<td>582 725</td>
<td>591 940</td>
<td>799 545</td>
</tr>
<tr>
<td>Number of sheep lost</td>
<td>17 311</td>
<td>15 896</td>
<td>16 076</td>
<td>16 853</td>
<td>23 026</td>
</tr>
<tr>
<td></td>
<td>2014</td>
<td>2015</td>
<td>2016</td>
<td>2017</td>
<td>2018***</td>
</tr>
<tr>
<td>----------------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>---------</td>
</tr>
<tr>
<td>% sheep</td>
<td>3,20 %</td>
<td>2,85 %</td>
<td>2,76 %</td>
<td>2,85 %</td>
<td>2,88 %</td>
</tr>
<tr>
<td>Number of lambs at pasture</td>
<td>908 268</td>
<td>927 664</td>
<td>969 674</td>
<td>971 863</td>
<td>1 225 468</td>
</tr>
<tr>
<td>Number of lambs lost</td>
<td>62 509</td>
<td>60 549</td>
<td>58 840</td>
<td>64 480</td>
<td>73 983</td>
</tr>
<tr>
<td>% lambs</td>
<td>6,90 %</td>
<td>6,53 %</td>
<td>6,07 %</td>
<td>6,63 %</td>
<td>6,04 %</td>
</tr>
<tr>
<td>Number of reindeer at pasture*</td>
<td>211 606</td>
<td>211 666</td>
<td>213 913</td>
<td>213 012</td>
<td>-</td>
</tr>
<tr>
<td>Number of reindeer lost</td>
<td>93 323</td>
<td>68 606</td>
<td>68 213</td>
<td>82 112</td>
<td>-</td>
</tr>
<tr>
<td>% reindeer**</td>
<td>24 %</td>
<td>19 %</td>
<td>19 %</td>
<td>23 %</td>
<td>-</td>
</tr>
<tr>
<td>Of which reindeer calves</td>
<td>65 756</td>
<td>50 428</td>
<td>51 848</td>
<td>63 541</td>
<td>-</td>
</tr>
</tbody>
</table>

* The reindeer husbandry year starts on 1 April and ends on 31 March. The figures for reindeer are the figures as of 31 March of the calendar year in which the reindeer husbandry year ends.

** The loss percentage is calculated on the basis of the potential number of animals if there had been no loss and no reindeer had been slaughtered during the preceding reindeer husbandry year.

*** Up to and including 2017, the figures for sheep and lambs on pasture organized forage use. For 2018, the total loss applies.

Appendix 1, table 10: Percentage of slaughter pigs registered with tail ulcer in slaughterhouse
Source: The Norwegian Food Safety Authority.

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of pigs with open tail ulcer / demolished tail wound or short tail on slaughterhouse</td>
<td>7,8 %</td>
<td>9,1 %</td>
<td>6,5 %</td>
</tr>
</tbody>
</table>

Appendix 1, table 11: Number of cases with severe neglect of animals in production animals ("animal tragedies"). Source: The Norwegian Food Safety Authority.

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of cases with serious neglect in production animals (horses not included)</td>
<td>46</td>
<td>38</td>
<td>36</td>
</tr>
</tbody>
</table>

HEALTH, QUALITY AND CONSUMER INTERESTS ALONG THE FOOD CHAIN

Appendix 1, table 12: Number and proportion of decisions pursuant to the national food information for consumers regulations in relation to the total number of decisions regarding foodstuffs.
Source: The Norwegian Food Safety Authority.

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of decisions pursuant to the national food information for consumers regulations</td>
<td>1 800</td>
<td>2 018</td>
<td>928</td>
</tr>
<tr>
<td>Proportion of decisions pursuant to the national food information for consumers regulations</td>
<td>19 %</td>
<td>22 %</td>
<td>12 %</td>
</tr>
</tbody>
</table>

Appendix 1, table 13: Number and proportion of samples that tested positive for Salmonella and samples in which the applicable limit values for undesirable substances were exceeded in relation to the total number of samples.
Source: The Norwegian Food Safety Authority.
### ENVIRONMENTALLY FRIENDLY PRODUCTION

*Appendix 1, table 14: Estimated risk associated with the use of pesticides*

*Source: The Norwegian Food Safety Authority.*

<table>
<thead>
<tr>
<th></th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales (tonnes of active agents)</td>
<td>883</td>
<td>666</td>
<td>699</td>
<td>677</td>
<td>622</td>
</tr>
<tr>
<td>Sales in % of 1996/1997</td>
<td>121</td>
<td>91</td>
<td>96</td>
<td>93</td>
<td>85</td>
</tr>
<tr>
<td>Health risk in % of 1996/1997</td>
<td>91</td>
<td>77</td>
<td>75</td>
<td>76</td>
<td>66</td>
</tr>
<tr>
<td>Environmental risk in % of 1996/1997</td>
<td>114</td>
<td>72</td>
<td>80</td>
<td>79</td>
<td>79</td>
</tr>
</tbody>
</table>

The table shows risk development based on turnover figures for own risk indicators for health and the environment. The average of 1996 and 1997 is set as a starting point with 100 per cent.

*Appendix 1, table 15: Amount of antibiotics used for pigs in Norway, distributed on the narrow spectrum (penicillins, sulfonamides and trimethoprim) and broad spectrum active substance. Source: Norwegian Food Safety Authority.*

<table>
<thead>
<tr>
<th></th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of narrow-spectrum antibiotics</td>
<td>91,55 %</td>
</tr>
<tr>
<td>% of broad-spectrum antibiotics</td>
<td>8,45 %</td>
</tr>
</tbody>
</table>
APPENDIX 2 PRODUCTION INDICATORS

DEVELOPMENT OF REGULATIONS

Appendix 2, table 1: Production indicators development of regulations. Source: Norwegian Food Safety Authority.

<table>
<thead>
<tr>
<th>Indicator*</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remarked agenda written in template and handed over before deadline</td>
<td>99 %</td>
<td>94 %</td>
</tr>
<tr>
<td>EEA-paper written and sent to Ministry before deadline</td>
<td>88 %</td>
<td>85 %</td>
</tr>
<tr>
<td>Form 1 sent Ministry within 2 weeks after meeting in EEA-committee</td>
<td>60 %</td>
<td>57 %</td>
</tr>
</tbody>
</table>

* New indicators since 2017

COMMUNICATION AND GUIDANCE

Appendix 2, table 2: Production indicators communication and guidance. Source: Norwegian Food Safety Authority.

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Matportalen.no - number of visits</td>
<td>1 245 397</td>
<td>1 133 699</td>
<td>1 100 570</td>
</tr>
<tr>
<td>Mattilsynet.no - number of visits</td>
<td>1 551 747</td>
<td>1 526 092</td>
<td>1 507 067</td>
</tr>
</tbody>
</table>

SUPERVISION

Appendix 2, table 3: Production indicators supervision. Source: Norwegian Food Safety Authority.

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supervision production – number of supervisory activities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total number of supervisory activities</td>
<td>72 889</td>
<td>70 902</td>
<td>66 949</td>
</tr>
<tr>
<td>For selected areas:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drinking water</td>
<td>1 430</td>
<td>1 484</td>
<td>1 375</td>
</tr>
<tr>
<td>Animal welfare</td>
<td>13 531</td>
<td>12 110</td>
<td>11 301</td>
</tr>
<tr>
<td>Fish health (=Primary production involving aquatic animals)</td>
<td>3 436</td>
<td>3 345</td>
<td>3 800</td>
</tr>
<tr>
<td>Productivity: Number of inspections per week in the area ‘retailers, establishments that serve food, transport and storage’</td>
<td>5,5</td>
<td>6,3</td>
<td>6,2</td>
</tr>
<tr>
<td>Emergency preparedness – Number/type of exercises held: See the Contingency chapter for details</td>
<td>6</td>
<td>60016</td>
<td>51</td>
</tr>
<tr>
<td>Number of risk and vulnerability analyses conducted Security37</td>
<td>1</td>
<td>1</td>
<td>4538</td>
</tr>
</tbody>
</table>

16 The introduction of MatCIM in 2017 meant that we had extra many exercises, especially with warning routines.
17 Brief description of the area analyses cover the chapter on Management and control
18 RV analyses of our computer systems due to the introduction of the Personal Data Act (GDPR)
Appendix 2, table 4: Production indicators – supervision quality. Source: Norwegian Food Safety Authority.

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Failure to comply with regulations</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage of enterprises subjected to inspections or audits where nonconformities were identified</td>
<td>48 %</td>
<td>50 %</td>
<td>46 %</td>
</tr>
<tr>
<td><strong>For selected areas:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drinking water</td>
<td>67 %</td>
<td>56 %</td>
<td>51 %</td>
</tr>
<tr>
<td>Animal welfare</td>
<td>40 %</td>
<td>41 %</td>
<td>39 %</td>
</tr>
<tr>
<td>Fish health</td>
<td>53 %</td>
<td>46 %</td>
<td>38 %</td>
</tr>
<tr>
<td><strong>Uniform professional judgement</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variation between regions in the percentage of enterprises subjected to inspections or audits where nonconformities were identified</td>
<td>45-55 %</td>
<td>46-56 %</td>
<td>44-51 %</td>
</tr>
<tr>
<td><strong>For selected areas:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drinking water</td>
<td>58-82 %</td>
<td>44-76 %</td>
<td>43-65 %</td>
</tr>
<tr>
<td>Animal welfare</td>
<td>37-43 %</td>
<td>35-50 %</td>
<td>27-50 %</td>
</tr>
<tr>
<td>Fish health</td>
<td>47-55 %</td>
<td>35-55 %</td>
<td>36-43 %</td>
</tr>
<tr>
<td><strong>Use of measures</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage of enterprises subjected to inspections or audits where nonconformities were identified about which decisions have been made</td>
<td>95 %</td>
<td>94 %</td>
<td>91 %</td>
</tr>
<tr>
<td><strong>For selected areas:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drinking water</td>
<td>98 %</td>
<td>96 %</td>
<td>95 %</td>
</tr>
<tr>
<td>Animal welfare</td>
<td>93 %</td>
<td>91 %</td>
<td>88 %</td>
</tr>
<tr>
<td>Fish health</td>
<td>98 %</td>
<td>93 %</td>
<td>89 %</td>
</tr>
<tr>
<td><strong>Uniform use of measures</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variation between regions in the percentage of enterprises subjected to inspections or audits where nonconformities were identified about which decisions have been made</td>
<td>93-96%</td>
<td>92-97%</td>
<td>86-94%</td>
</tr>
<tr>
<td><strong>For selected areas:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drinking water</td>
<td>95-100 %</td>
<td>93-98 %</td>
<td>92-98 %</td>
</tr>
<tr>
<td>Animal welfare</td>
<td>90-96 %</td>
<td>89-94 %</td>
<td>83-90 %</td>
</tr>
<tr>
<td>Fish health</td>
<td>95-99 %</td>
<td>84-97 %</td>
<td>73-97 %</td>
</tr>
</tbody>
</table>
SUPPORT AND ADMINISTRATIVE FUNCTIONS

Appendix 2, table 5: Production indicators – support and administrative functions. Source: Norwegian Food Safety Authority.

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficient operations – Proportion of full-time equivalents used for administrative and support activities</td>
<td>24,8 %</td>
<td>24,1 %</td>
<td>24,0 %</td>
</tr>
<tr>
<td>HSE – Percentage sickness absence</td>
<td>5,8 %</td>
<td>6,3 %</td>
<td>6,1 %</td>
</tr>
<tr>
<td>ICT – Uptime for the MATS electronic forms service</td>
<td>99,69 %</td>
<td>99,97 %</td>
<td>100 %</td>
</tr>
</tbody>
</table>

* The calculation includes operational tasks within ICT, Security, documentation / archive, switchboard, office operation, HSE, HR, purchasing, finance, management and management
## APPENDIX 3: STATISTICS

### PRODUCTION

Appendix 3, table 1: Number of supervisory activities, in total and per supervision area. Source: Norwegian Food Safety Authority.

<table>
<thead>
<tr>
<th>Supervisory area</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>By-products</td>
<td>137</td>
<td>190</td>
<td>194</td>
</tr>
<tr>
<td>Intermediate goods (seeds/seed potatoes, pesticides, fertilisers and feed)</td>
<td>644</td>
<td>725</td>
<td>815</td>
</tr>
<tr>
<td>Primary production involving land animals</td>
<td>27 504</td>
<td>27 070</td>
<td>24 020</td>
</tr>
<tr>
<td>Of which also pursuant to the Animal Welfare Act</td>
<td>13 531</td>
<td>12 110</td>
<td>11 301</td>
</tr>
<tr>
<td>Primary production involving aquatic animals</td>
<td>3 436</td>
<td>3 345</td>
<td>3 800</td>
</tr>
<tr>
<td>Primary production involving plants</td>
<td>1 035</td>
<td>1 051</td>
<td>890</td>
</tr>
<tr>
<td>Foodstuffs</td>
<td>25 674</td>
<td>25 173</td>
<td>23 663</td>
</tr>
<tr>
<td>Of which slaughtering, butchering and production of meat</td>
<td>5 332</td>
<td>5 042</td>
<td>4 708</td>
</tr>
<tr>
<td>Of which seafood</td>
<td>1 676</td>
<td>1 541</td>
<td>1 677</td>
</tr>
<tr>
<td>Of which establishments that serve food and retailers</td>
<td>16 413</td>
<td>16 791</td>
<td>15 544</td>
</tr>
<tr>
<td>Of which other, foodstuffs</td>
<td>2 253</td>
<td>1 799</td>
<td>1 734</td>
</tr>
<tr>
<td>Drinking water</td>
<td>1 430</td>
<td>1 484</td>
<td>1 375</td>
</tr>
<tr>
<td>Imports</td>
<td>4 412</td>
<td>3 989</td>
<td>3 979</td>
</tr>
<tr>
<td>Border control</td>
<td>7 089</td>
<td>6 233</td>
<td>6 240</td>
</tr>
<tr>
<td>Exports</td>
<td>1216</td>
<td>1 456</td>
<td>1 620</td>
</tr>
<tr>
<td>Other supervision</td>
<td>312</td>
<td>186</td>
<td>353</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>72 889</td>
<td>70 902</td>
<td>66 949</td>
</tr>
</tbody>
</table>

Appendix 3, table 2: Number of certificates etc. Source: Norwegian Food Safety Authority.

<table>
<thead>
<tr>
<th>Supervisory area</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of certificates for the export of fish and seafood</td>
<td>47 944</td>
<td>58 831</td>
<td>54 389</td>
</tr>
<tr>
<td>Number of certificates for the export of land-based products</td>
<td>5 069</td>
<td>5 780</td>
<td>5 586</td>
</tr>
<tr>
<td>The number of products approved under the Protected Designation Scheme (as of 31 December)</td>
<td>29</td>
<td>31</td>
<td>32</td>
</tr>
</tbody>
</table>

Appendix 3, table 3: Percentage of samples with permitted trace contamination of GMO or breach of regulations. Source: Norwegian Food Safety Authority.

<table>
<thead>
<tr>
<th>GMO</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of samples of food/feed/seeds and propagating material</td>
<td>121</td>
<td>134</td>
<td>129</td>
<td>158</td>
<td>170</td>
</tr>
<tr>
<td>Number of violations of regulations</td>
<td>7</td>
<td>4</td>
<td>2</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Number of samples with permitted trace contamination</td>
<td>49</td>
<td>53</td>
<td>57</td>
<td>65</td>
<td>63</td>
</tr>
</tbody>
</table>
Appendix 3, table 4: Inspections on fur animals. Source: Norwegian Food Safety Authority.

<table>
<thead>
<tr>
<th>Fur animals</th>
<th>2017 Mink</th>
<th>2017 Foxes</th>
<th>2018 Mink</th>
<th>2018 Foxes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of registered animal holdings</td>
<td>151</td>
<td>152</td>
<td>139</td>
<td>138</td>
</tr>
<tr>
<td>Number of supervisory visits</td>
<td>81</td>
<td>46</td>
<td>52</td>
<td>25</td>
</tr>
<tr>
<td>Number of cases with notification of decision</td>
<td>19</td>
<td>44</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Number of cases where decisions were made</td>
<td>22</td>
<td>9</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td>Number of cases where decisions were made without prior notification</td>
<td>19</td>
<td>0</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>Number of cases reported to police</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Percentage of unannounced animal welfare inspections</td>
<td>89 %</td>
<td>47 %</td>
<td>90 %</td>
<td>48 %</td>
</tr>
</tbody>
</table>

Appendix 3, table 5: Number of issued health certificates and health certificates per product type in 2018. Source: Norwegian Food Safety Authority.

<table>
<thead>
<tr>
<th>Number of certificates per product type</th>
<th>Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seafood</td>
<td>54 389</td>
<td>90,69 %</td>
</tr>
<tr>
<td>Live animals</td>
<td>1 599</td>
<td>2,67 %</td>
</tr>
<tr>
<td>Milk and dairy products including ice cream</td>
<td>643</td>
<td>1,07 %</td>
</tr>
<tr>
<td>Breeding products</td>
<td>579</td>
<td>0,97 %</td>
</tr>
<tr>
<td>Fish oil NHC</td>
<td>560</td>
<td>0,93 %</td>
</tr>
<tr>
<td>Others</td>
<td>290</td>
<td>0,48 %</td>
</tr>
<tr>
<td>Animal by-products, land animals</td>
<td>246</td>
<td>0,41 %</td>
</tr>
<tr>
<td>Sawn</td>
<td>233</td>
<td>0,39 %</td>
</tr>
<tr>
<td>Meat</td>
<td>179</td>
<td>0,30 %</td>
</tr>
<tr>
<td>Liver, aquatic animals including marine mammals</td>
<td>161</td>
<td>0,27 %</td>
</tr>
<tr>
<td>Plants and cuts</td>
<td>135</td>
<td>0,23 %</td>
</tr>
<tr>
<td>Bottled water</td>
<td>131</td>
<td>0,22 %</td>
</tr>
<tr>
<td>Other animal feed</td>
<td>102</td>
<td>0,17 %</td>
</tr>
<tr>
<td>Seaweed</td>
<td>96</td>
<td>0,16 %</td>
</tr>
<tr>
<td>Juveniles</td>
<td>88</td>
<td>0,15 %</td>
</tr>
<tr>
<td>Egg products</td>
<td>79</td>
<td>0,13 %</td>
</tr>
<tr>
<td>Animal by-products, aquatic animals including marine mammals</td>
<td>78</td>
<td>0,13 %</td>
</tr>
<tr>
<td>Fresh hides and skins</td>
<td>71</td>
<td>0,12 %</td>
</tr>
<tr>
<td>Fruits and vegetables</td>
<td>66</td>
<td>0,11 %</td>
</tr>
<tr>
<td>Roe</td>
<td>58</td>
<td>0,10 %</td>
</tr>
<tr>
<td>Smolt</td>
<td>56</td>
<td>0,09 %</td>
</tr>
<tr>
<td>Meat products</td>
<td>47</td>
<td>0,08 %</td>
</tr>
<tr>
<td>Alcohol</td>
<td>26</td>
<td>0,04 %</td>
</tr>
</tbody>
</table>
### Number of certificates per product type

<table>
<thead>
<tr>
<th>Product Type</th>
<th>Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Christmas tree</td>
<td>21</td>
<td>0,04%</td>
</tr>
<tr>
<td>Nursery stock</td>
<td>16</td>
<td>0,03%</td>
</tr>
<tr>
<td>Margarine Products</td>
<td>13</td>
<td>0,02%</td>
</tr>
<tr>
<td>Fish oil</td>
<td>9</td>
<td>0,02%</td>
</tr>
<tr>
<td>Fish feed</td>
<td>4</td>
<td>0,01%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>59,975</td>
<td>100,00%</td>
</tr>
</tbody>
</table>


### Theme for Surveillance and monitoring Programs 2018

#### Animal food
- Antibiotic residues in the slaughter of cattle, flocks and pigs
- Campylobacter in broiler
- Residue program for land animals
- Import program food of animal origin - regions
- Import program boarder control residues
- NORM-VET
- Monitoring food with high microbiological risk
- Radioactivity in food
- Salmonella - live animals
- Salmonella – products

#### Seafood
- Polluted ports and fjords
- Residues in feedstuff for fish
- Residues in wild fish
- Residue program for fish 96/23
- Imported product (HC and NHC) from third countries
- Pollutants in fish
- National supervisory program for mussel production

#### Vegetable food
- Genetic modification in foods and in feed for fish and land animals
- Residues of pesticides in foods
- Infectious substances in vegetable food

#### Animal health
- AD, TGE, PRCV, PRRS, influenza
- Blue tongue cattle
- Brucella CAE, goats
- Brucella cattle
- CWD
- Foot rot
- Angiostrongylus vasorum - Fox
- IBR/IPV, BVD and EBL
- Camels - Psoroptes avis
- Pets
- MRSA pigs
- Visna virus and Brucella sheep
- HOP (wild deer and musk)
- Monitoring mycoplasma poultry
# Theme for Surveillance and monitoring Programs 2018

<table>
<thead>
<tr>
<th>Classification</th>
<th>Conditions/Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART, Turkey</td>
<td>Certification samples Newcastle disease and Mycoplasma</td>
</tr>
<tr>
<td>ILT</td>
<td>Monitoring AI poultry</td>
</tr>
<tr>
<td>Monitoring <em>Echinococcus</em></td>
<td></td>
</tr>
<tr>
<td>Paratuberculosis cattle, sheep and goats and camels</td>
<td></td>
</tr>
<tr>
<td>TSE cattle, sheep and goats, deer (breeding/wild)</td>
<td></td>
</tr>
<tr>
<td>Tuberculosis cattle, camels, deer (breeding/wild)</td>
<td></td>
</tr>
<tr>
<td>European foulbrood</td>
<td></td>
</tr>
<tr>
<td>Fish and shell health</td>
<td></td>
</tr>
<tr>
<td>Healthy notification program for Gyro</td>
<td></td>
</tr>
<tr>
<td><em>Gyrodactylus salaris</em> (hatcheries and rivers)</td>
<td></td>
</tr>
<tr>
<td><em>Gyrodactylus salaris</em>, exterminate new infected <em>Rana</em></td>
<td></td>
</tr>
<tr>
<td>ISA</td>
<td></td>
</tr>
<tr>
<td>Mapping Drammen watercourse</td>
<td></td>
</tr>
<tr>
<td>Crayfish plague</td>
<td></td>
</tr>
<tr>
<td>Monitoring salmon lice</td>
<td></td>
</tr>
<tr>
<td>Monitoring <em>Bonamia / Marteilia</em></td>
<td></td>
</tr>
<tr>
<td>Monitoring VHS/ IHN</td>
<td></td>
</tr>
<tr>
<td>Development of resistance to drugs in salmon lice</td>
<td></td>
</tr>
<tr>
<td>Plant health</td>
<td></td>
</tr>
<tr>
<td><em>Anoplophora grabripennis</em></td>
<td></td>
</tr>
<tr>
<td>Nematodes and <em>Phytophthora spp</em> in soil of imported plants</td>
<td></td>
</tr>
<tr>
<td><em>Chaetosiphon fragaefolii</em> in strawberry</td>
<td></td>
</tr>
<tr>
<td><em>Thrips setosus</em></td>
<td></td>
</tr>
<tr>
<td>Unwanted seeds in food, feed, seeds</td>
<td></td>
</tr>
<tr>
<td>Virus in strawberries</td>
<td></td>
</tr>
<tr>
<td><em>Xylella fastidiosa</em></td>
<td></td>
</tr>
<tr>
<td>Monitoring <em>Bursaphelenchus xylophilus</em></td>
<td></td>
</tr>
<tr>
<td>Pesticides in organic products</td>
<td></td>
</tr>
<tr>
<td>Fire blight</td>
<td></td>
</tr>
<tr>
<td>Residues of pesticides in ornamental plants and nursery plants</td>
<td></td>
</tr>
<tr>
<td><em>Xanthomonas fragariae</em> in strawberry</td>
<td></td>
</tr>
<tr>
<td>Feed</td>
<td></td>
</tr>
<tr>
<td>Feed for fish</td>
<td></td>
</tr>
<tr>
<td>Feed for animals</td>
<td></td>
</tr>
<tr>
<td>Consumer concerns</td>
<td></td>
</tr>
<tr>
<td>Cosmetics</td>
<td></td>
</tr>
<tr>
<td>Food supplements</td>
<td></td>
</tr>
<tr>
<td>Food contact materials</td>
<td></td>
</tr>
<tr>
<td>Monitoring fraud and OPSON</td>
<td></td>
</tr>
</tbody>
</table>

The surveillance and monitoring programs are financed through the purchase of analysis services from knowledge institutions and businesses as shown in the figure below.
Appendix 3, figure 1: Purchase of analysis service distributed by knowledge institutions and laboratories and other suppliers. Source: Norwegian Food Safety Authority.

Commercial laboratories include FERA LTD and Eurofins Food & Feed Testing Norway. Other includes Danmarks Tekniske Universitet (DTU), Analysesenteret AS, SYNLAB, KIMEN, Valdreslab AS and Naturhistorisk museum.

RESOURCE USE

Available full-time equivalents show registered time during the year, not including time registered as holidays, sickness absence and leaves of absence. The number of available full-time equivalents will deviate from the number of full-time equivalents in the staffing statistics because the latter shows the number of positions converted into full-time positions at a certain time.

Appendix 3, table 6: Available full-time equivalents total and per administrative level. Source: Norwegian Food Safety Authority.

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head office</td>
<td>270,9</td>
<td>263,4</td>
<td>268,5</td>
</tr>
<tr>
<td>Regions</td>
<td>851,7</td>
<td>839,4</td>
<td>822,9</td>
</tr>
<tr>
<td>The NFSA as a whole</td>
<td>1 122,6</td>
<td>1 102,8</td>
<td>1 091,4</td>
</tr>
</tbody>
</table>

Appendix 3, table 7: Number of available full-time equivalents per county. Source: Norwegian Food Safety Authority.

<table>
<thead>
<tr>
<th>County</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oslo</td>
<td>198,8</td>
<td>188,6</td>
<td>190,4</td>
</tr>
<tr>
<td>Akershus</td>
<td>94,8</td>
<td>93,7</td>
<td>92,5</td>
</tr>
<tr>
<td>Østfold</td>
<td>25,8</td>
<td>25,7</td>
<td>23,9</td>
</tr>
<tr>
<td>Hedmark</td>
<td>97,5</td>
<td>100,8</td>
<td>95,7</td>
</tr>
<tr>
<td>Oppland</td>
<td>33,4</td>
<td>28,5</td>
<td>29,9</td>
</tr>
<tr>
<td>Buskerud</td>
<td>35,5</td>
<td>38,6</td>
<td>37,6</td>
</tr>
<tr>
<td>Vestfold</td>
<td>28,5</td>
<td>28,4</td>
<td>25,5</td>
</tr>
<tr>
<td>Telemark</td>
<td>23,4</td>
<td>23,6</td>
<td>22,6</td>
</tr>
</tbody>
</table>
### Appendix 3, table 8: Number of full-time equivalents total and process. Source: Norwegian Food Safety Authority.

<table>
<thead>
<tr>
<th>County</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aust-Agder</td>
<td>11,8</td>
<td>10,8</td>
<td>10,2</td>
</tr>
<tr>
<td>Vest-Agder</td>
<td>15,6</td>
<td>16,1</td>
<td>15,6</td>
</tr>
<tr>
<td>Rogaland</td>
<td>111,8</td>
<td>113,3</td>
<td>113,2</td>
</tr>
<tr>
<td>Hordaland</td>
<td>79,8</td>
<td>80,9</td>
<td>86,6</td>
</tr>
<tr>
<td>Sogn og Fjordane</td>
<td>35,2</td>
<td>38,3</td>
<td>36,4</td>
</tr>
<tr>
<td>Møre og Romsdal</td>
<td>49,2</td>
<td>47,3</td>
<td>44,4</td>
</tr>
<tr>
<td>Sør-Trøndelag</td>
<td>65,7</td>
<td>57,2</td>
<td>together 110,2</td>
</tr>
<tr>
<td>Nord-Trøndelag</td>
<td>54,6</td>
<td>54,4</td>
<td></td>
</tr>
<tr>
<td>Nordland</td>
<td>84,7</td>
<td>83,1</td>
<td>82,8</td>
</tr>
<tr>
<td>Troms</td>
<td>42,8</td>
<td>42,4</td>
<td>42,3</td>
</tr>
<tr>
<td>Finnmark</td>
<td>33,9</td>
<td>31,0</td>
<td>31,7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1 122,6</strong></td>
<td><strong>1 102,8</strong></td>
<td><strong>1 091,4</strong></td>
</tr>
</tbody>
</table>

### Appendix 3, table 9: Number of full-time equivalents for supervisory visits per area (disciplines/activities). Source: Norwegian Food Safety Authority.

<table>
<thead>
<tr>
<th>Supervisory area</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retailers, establishments that serve food, transport and storage</td>
<td>87,8</td>
<td>79,8</td>
<td>72,6</td>
</tr>
<tr>
<td>Drinking water</td>
<td>23,3</td>
<td>20,6</td>
<td>20,1</td>
</tr>
<tr>
<td>Seafood</td>
<td>37,2</td>
<td>35,1</td>
<td>38,7</td>
</tr>
<tr>
<td>Food of animal origin</td>
<td>135,9</td>
<td>130,7</td>
<td>124,9</td>
</tr>
<tr>
<td>Other food</td>
<td>32,8</td>
<td>31,1</td>
<td>30,8</td>
</tr>
<tr>
<td>Plants</td>
<td>31,3</td>
<td>30,7</td>
<td>30,2</td>
</tr>
<tr>
<td>Land animals</td>
<td>125,8</td>
<td>129,7</td>
<td>126,8</td>
</tr>
<tr>
<td>Aquatic animals</td>
<td>48,2</td>
<td>48,2</td>
<td>55,1</td>
</tr>
<tr>
<td>Feed, by-products, animal health personnel, cosmetics etc.</td>
<td>12,6</td>
<td>11,9</td>
<td>13,1</td>
</tr>
<tr>
<td>Other supervision</td>
<td>38,5</td>
<td>40,6</td>
<td>36,9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>589,7</td>
<td>578,6</td>
<td>568,7</td>
</tr>
</tbody>
</table>

### Appendix 3, table 10: Number of available full-time equivalents per discipline.

Source: Norwegian Food Safety Authority.
<table>
<thead>
<tr>
<th>Discipline</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>344,1</td>
<td>351,4</td>
<td>345,5</td>
</tr>
<tr>
<td>Aquaculture and seafood</td>
<td>201,1</td>
<td>198,4</td>
<td>212,1</td>
</tr>
<tr>
<td>Food</td>
<td>532,2</td>
<td>511,8</td>
<td>490,9</td>
</tr>
<tr>
<td>International work and development of regulations</td>
<td>45,2</td>
<td>41,2</td>
<td>42,9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1 122,6</strong></td>
<td><strong>1 102,8</strong></td>
<td><strong>1 091,4</strong></td>
</tr>
</tbody>
</table>

The measures structure has not been developed to document time spent on subject areas. Where measures are directed at several subject areas, the activity is assigned to the subject area which is considered most relevant. Time spent that cannot be attributed to subject areas is distributed proportionally.

**FEE REVENUES AND CALCULATED OPERATING EXPENSES PER FEE**

*Links between the NFSA’s expenses and revenues from food administration fees*

*Appendix 3, table 11: The NFSA’s fee revenues in relation to the operating expenses. Source: Norwegian Food Safety Authority.*

<table>
<thead>
<tr>
<th>Key figures</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fee revenues as a proportion of total expenses (%)</td>
<td>11,3</td>
<td>12,8</td>
<td>13,2</td>
</tr>
<tr>
<td>Fee revenues as a proportion of calculated self-cost (%)</td>
<td>52,3</td>
<td>45,5</td>
<td>47,7</td>
</tr>
</tbody>
</table>

The total fee revenues correspond to a slightly higher percentage of the NFSA’s total expenses in 2017 than in 2018. The reason for this is a general reduction in the indirect costs of producing the services. Moreover, 2018 was the first year with a full-year effect of the new control fee for aquaculture facilities.

The fee revenues as a percentage of calculated self-cost also increased for the same reasons. However, the development varies between fees. The percentage increased for the veterinary border control and meat control fees, but decreased for the fees for specific services and control of organic production and products.

*Fee revenues and calculated operating expenses per fee for 2018*

The expenses have been calculated on the basis of net expenses recognised in the accounts (gross operating expenses minus operating income) and registered time used, with the exception of fees for further official control, for which the time used has been estimated. Resource use for non-discipline-specific activities has been proportionately divided. On the basis of a discretionary assessment, account has been taken of the fact that slaughterhouses put premises etc. at the disposal of NFSA personnel in connection with official meat control. In the field of organic production, the income Debio has transferred to the NFSA is compared to the operating grant the NFSA pays to Debio. The NFSA has not calculated indirect costs for this fee.

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39 The direct and indirect costs of producing a service.
STAFFING

The full-time equivalent figures show the number of positions (permanent, substitute and temporary employees) converted to full-time positions, excluding employees on paid leave of absence. The reason for the increase in the number of full-time equivalents at the central level is increased staffing in focus areas due to an increased workload, and because ICT has replaced some consultancy services with permanent employees.

Appendix 3, table 12: Number of full-time equivalents, total and at the national and regional levels in the NFSA. Source: Norwegian Food Safety Authority.

<table>
<thead>
<tr>
<th>Average</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-time equivalents, national level</td>
<td>300</td>
<td>290</td>
<td>294</td>
</tr>
<tr>
<td>Full-time equivalents, regional level</td>
<td>933</td>
<td>934</td>
<td>931</td>
</tr>
<tr>
<td><strong>Full time equivalents, total</strong></td>
<td><strong>1 232</strong></td>
<td><strong>1 224</strong></td>
<td><strong>1 225</strong></td>
</tr>
</tbody>
</table>

Appendix 3, table 13: Recruitment and staff turnover. Source: Norwegian Food Safety Authority.

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turnover</td>
<td>4.5%</td>
<td>6.0%</td>
<td>3.7%</td>
</tr>
<tr>
<td>Average age of retirement, years</td>
<td>66.6</td>
<td>66.9</td>
<td>66.9</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of applicants from immigrant backgrounds</td>
<td>97</td>
<td>153</td>
<td>189</td>
</tr>
<tr>
<td>Number of applicants with functional impairments</td>
<td>6</td>
<td>10</td>
<td>16</td>
</tr>
</tbody>
</table>
### Persons in work training via the Norwegian Labour and Welfare Administration (NAV)

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persons in work training via NAV</td>
<td>27</td>
<td>34</td>
<td>13</td>
</tr>
</tbody>
</table>

**Status reporting (gender)**

(Cf. the reporting requirements in Part IV of the corporate governance and financial management instructions on status and developments in relation to full-time equivalents, part-time work, temporary employees and sickness absence broken down by gender, and equal pay).

*Appendix 3, table 15: Registration form for status reporting (gender/pay) Source: Norwegian Food Safety Authority.*

<table>
<thead>
<tr>
<th>Gender</th>
<th>Number of men</th>
<th>Percentage of men</th>
<th>Number of women</th>
<th>Percentage of women</th>
<th>Total number</th>
<th>Men ( \varnothing )</th>
<th>Women ( \varnothing )</th>
<th>F/M %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total in the agency</td>
<td>2018</td>
<td>395</td>
<td>29%</td>
<td>945</td>
<td>71%</td>
<td>1 340</td>
<td>581 692</td>
<td>566 042</td>
</tr>
<tr>
<td></td>
<td>2017</td>
<td>408</td>
<td>31%</td>
<td>923</td>
<td>69%</td>
<td>1 331</td>
<td>564 554</td>
<td>545 915</td>
</tr>
<tr>
<td>Senior management</td>
<td>2018</td>
<td>6</td>
<td>42%</td>
<td>7</td>
<td>58%</td>
<td>13</td>
<td>1 080 000</td>
<td>1 083 186</td>
</tr>
<tr>
<td></td>
<td>2017</td>
<td>6</td>
<td>46%</td>
<td>7</td>
<td>54%</td>
<td>13</td>
<td>1 058 660</td>
<td>1 037 400</td>
</tr>
<tr>
<td>Middle managers</td>
<td>2018</td>
<td>25</td>
<td>32%</td>
<td>52</td>
<td>68%</td>
<td>77</td>
<td>789 123</td>
<td>751 853</td>
</tr>
<tr>
<td></td>
<td>2017</td>
<td>27</td>
<td>36%</td>
<td>49</td>
<td>64%</td>
<td>76</td>
<td>752 793</td>
<td>730 697</td>
</tr>
<tr>
<td>Category 1 (senior advisers, senior/special advisers, special inspectors, project managers)</td>
<td>2018</td>
<td>233</td>
<td>31%</td>
<td>509</td>
<td>69%</td>
<td>742</td>
<td>606 626</td>
<td>594 428</td>
</tr>
<tr>
<td></td>
<td>2017</td>
<td>237</td>
<td>33%</td>
<td>475</td>
<td>67%</td>
<td>712</td>
<td>589 409</td>
<td>575 167</td>
</tr>
<tr>
<td>Category 2 (advisers, senior inspectors)</td>
<td>2018</td>
<td>104</td>
<td>27%</td>
<td>279</td>
<td>73%</td>
<td>383</td>
<td>488 116</td>
<td>507 195</td>
</tr>
<tr>
<td></td>
<td>2017</td>
<td>109</td>
<td>28%</td>
<td>284</td>
<td>72%</td>
<td>393</td>
<td>477 892</td>
<td>495 287</td>
</tr>
<tr>
<td>Category 3 (senior/higher executive officers, inspectors)</td>
<td>2018</td>
<td>24</td>
<td>23%</td>
<td>80</td>
<td>77%</td>
<td>104</td>
<td>451 366</td>
<td>458 166</td>
</tr>
<tr>
<td></td>
<td>2017</td>
<td>26</td>
<td>24%</td>
<td>83</td>
<td>76%</td>
<td>109</td>
<td>433 840</td>
<td>438 804</td>
</tr>
<tr>
<td>Category 4 (executive officers, cleaners, apprentices, skilled workers w/craft certificate)</td>
<td>2018</td>
<td>3</td>
<td>14%</td>
<td>18</td>
<td>86%</td>
<td>21</td>
<td>372 622</td>
<td>405 871</td>
</tr>
<tr>
<td></td>
<td>2017</td>
<td>3</td>
<td>11%</td>
<td>24</td>
<td>89%</td>
<td>27</td>
<td>364 922</td>
<td>403 217</td>
</tr>
<tr>
<td>Paid by the hour</td>
<td>2018</td>
<td>10</td>
<td>42%</td>
<td>14</td>
<td>58%</td>
<td>24</td>
<td>142 050</td>
<td>374 714</td>
</tr>
<tr>
<td></td>
<td>2017</td>
<td>3</td>
<td>33%</td>
<td>11</td>
<td>67%</td>
<td>14</td>
<td>467 167</td>
<td>489 064</td>
</tr>
</tbody>
</table>

---

40 From and including 2018, students in practical training are not included

41 Women’s pay as a percentage of men’s pay

42 New in 2018

43 New in 2018
Appendix 3, table 16: Registration form for status reporting (gender) Source: Norwegian Food Safety Authority.

<table>
<thead>
<tr>
<th>Gender</th>
<th>M %</th>
<th>F %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part-time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>This year (2018)</td>
<td>2.9</td>
<td>13.7</td>
</tr>
<tr>
<td>Last year (2017)</td>
<td>3.2</td>
<td>14.7</td>
</tr>
<tr>
<td>Temporary employees</td>
<td></td>
<td></td>
</tr>
<tr>
<td>This year (2018)</td>
<td>1.4</td>
<td>3.7</td>
</tr>
<tr>
<td>Last year (2017)</td>
<td>1.2</td>
<td>3.3</td>
</tr>
<tr>
<td>Parental leave&lt;sup&gt;44&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>This year (2018)</td>
<td>4.1</td>
<td>95.9</td>
</tr>
<tr>
<td>Last year (2017)</td>
<td>1.5</td>
<td>98.5</td>
</tr>
<tr>
<td>Doctor-certified sickness absence</td>
<td>5.1</td>
<td>6.5</td>
</tr>
<tr>
<td>This year (2018)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Last year (2017)</td>
<td>5.0</td>
<td>6.7</td>
</tr>
<tr>
<td>Measures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>This year (2018)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Last year (2017)</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<sup>44</sup> The data basis for 2017 has been changed from the number of persons to the number of days of parental leave.