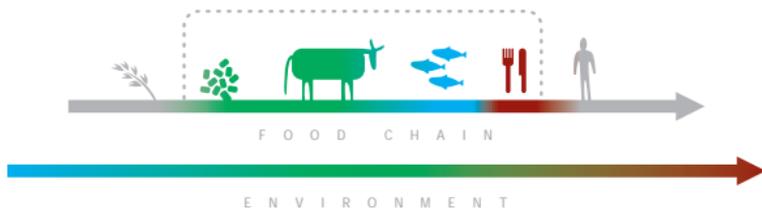




Veterinærinstituttet
Norwegian Veterinary Institute

Facts & Figures Norwegian Veterinary Institute 2018





Veterinærinstituttet
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We are here today...



Moving here in 2020

Who we are

- A biomedical research institute and Norway's leading centre of expertise in biosecurity in fish and terrestrial animals as well as feed and food safety.
- Preparedness, diagnostics, surveillance, reference- and scientific advisory functions, and risk assessments within animal and fish health and food safety are the most important areas of operation.
- A governmental institution owned by the Ministry of Agriculture and Food. We also perform tasks for the Ministry of Trade, Industry and Fisheries.

- Our basic financial support comes from these ministries and the Research Council of Norway. Some of our revenue comes also from research projects and contracts.
- In 2020, the Institute's headquarters will move to Ås outside Oslo, and the activities of its regional units along the coast will be expanded.

Our values, vision and main objectives

- The Norwegian Veterinary Institute shall be scientifically ambitious, forward-looking and cooperative, with special competence within One Health.
- The Norwegian Veterinary Institute will work to improve fish- and animal health, animal welfare, food safety, human health and sustainable bioproduction.

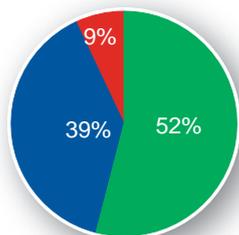
Key work in 2017

- Continued surveillance for livestock associated MRSA yielded pleasing results emphasising that the "Search and destroy" policy contributes to an extremely low prevalence of MRSA in pigs in Norway.
- More than 40 000 cervids have been tested for Chronic Wasting Disease (CWD) in the last 2 years.
- The Salmon Lice model developed by researchers at the Institute is part of the knowledge base for the Norwegian Governments «Traffic light» system established in 2017 to regulate the aquaculture industry in Norway.
- The Norwegian Veterinary Institute became one of the main contributors to EP ONE HEALTH Program where 41 research institutions from 19 countries cooperate.
- Representatives from the Norwegian Veterinary Institute visited China to establish contacts for new research projects.
- A milestone was reached in combating the parasite *Gyrodactylus salaris* in Norwegian rivers and waters.
- FarmSalmTrack - a new method and system was developed for tracing of escaped farmed salmon.
- The Minister of Health and Minister of EU and EEA Affairs visited our offices and laboratories during the European Antibiotics Awareness week.
- The Norwegian Veterinary Institute in Bergen moved to new facilities at Marineholmen.
- The Norwegian Veterinary Institute was awarded research funding through the high-ranking FRIPRO scheme of the Research Council of Norway.

Key figures 2017

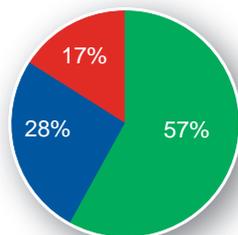
- 337 employees
- 122 employees with PhD
- 98 scientific articles
- 6 locations in Norway

90 research projects 2017



- Animal Health
- Fish Health
- Food and Feed Safety

44 surveillance programmes 2017



- Land animals
- Fish - Shells
- Food - Feed

Figures pr 31.12.2017

Employees	337
- Female	69 %
- Male	31 %
Nationalities of employees	40
Employees with PhD	122
Published scientific articles 2017 (updated 15.03.2018)	98
PhD students	14
PhD dissertations completed in 2017	3
Analysed samples in 2017	182 000
Total income	371 MNOK

Services

- Research, analyses and diagnostics
- Knowledge production and development
- 44 national surveillance programmes
- National reference laboratory (more than 30 diseases)
- International reference laboratory under OIE (4 diseases)
- OIE Collaborating Center for Epidemiology and Risk Assessment for Aquatic Animal Diseases.

Good health and welfare for animals, human beings and the environment

The main object for the Norwegian Veterinary Institute is to provide, assemble and develop new knowledge through research, surveillance and diagnostics in order to promote good health and welfare for animals, fish, human beings and the environment - in a "One Health"-perspective.

The Norwegian Veterinary Institute shall work to secure good health and food safety in Norway and at the same time remain a key contributor to the green shift. To do so, the Institute must continuously develop its competence and methods to remain at the fore and contribute toward sustainable bioproduction on land and in the sea. The levels of contingency planning and diagnostic expertise will be maintained and modernized by utilising new technology, new methods and through continous research. The Norwegian Veterinary Institute shall further develop its research portfolio in both national and international arenas.

The potential to fulfil this mission will further increase when the headquarters in Oslo move to new facilities in Ås south of Oslo in 2020. The new facilities, currently the largest on-going building project in Norway, will provide new and unique opportunities to raise the level of research and services. Changes in location, technology and services will also create new opportunities for our five regional laboratories, which are strategically located along the coast of Norway. The knowledge produced by the Veterinary Institute about animal health and contingency planning within Norway also contributes to a world-wide platform for scientific co-operation and knowledge sharing.

Range of activities

- Preparedness, diagnostics, research, innovation, monitoring, risk assessment, consulting and communication, aimed at preventing threats to the health of fish, animals and human beings.

Our mission

- To be a leading knowledge provider for national contingency planning in the fields of fish and animal health, animal welfare and animal feed and food safety.
- To identify and prevent threats to animal- and human health - ("One Health").



Research activities

The scope of our research is aimed at improving animal and fish health and welfare, feed and food safety, and creating environmentally friendly and sustainable production systems. We have almost 90 current research projects, funded by grants in open competition for national and international research funding.

- Among the major scientific outputs from the research projects are 90-120 scientific publications per year in peer-reviewed international scientific journals, and 4-9 PhDs per year.
- Under the EU Horizon 2020 programme, the Institute is a partner within 4 ongoing research projects, in the One Health European Joint Programme (EJP), in one Marie S. Curie ITN and several joint initiatives.
- In 2017 the Institute took part in 13 COST-actions with the European co-operation regarding animal health, food safety and One Health.
- During the last 8 years researchers at the Institute have co-published in scientific journals with authors from 82 countries.

Examples of research areas:

- **eDNA monitoring:** Detection of environmental DNA (eDNA) from pathogens of aquatic animals, carriers and susceptible species in nature and aquaculture. Aims to develop non-invasive monitoring of presence/absence and spread without sacrificing live animals. Model systems include *Gyrodactylus salaris* & salmon, and native, invasive and ornamental freshwater crayfish & serious crayfish pathogens.
- **Gill health:** The Gill Health Platform (GHP) is a strategic concentration of research, motivated by the vital importance of the gills to fish health and function. The GHP assembles researchers and projects with expertise and interest in fish gill health, with particular focus on Atlantic salmon (*Salmo salar*) and aquaculture.
- **Mycobacteria:** This project aims to further develop the institute competence on mycobacterial infections and maintain the institute's preparedness for future challenges. Part of this project is aiming to develop a peptide vaccine against *Mycobacterium avium* subsp. *paratuberculosis*. Paratuberculosis is a disease that compromises the health and welfare of ruminants, leading to major economic losses in the dairy industry worldwide. Furthermore, we are mapping the status of various mycobacterial species in Norwegian herds, and investigating their potential threat to human health.
- **MucoPath:** Models of mucosal pathogenesis in fish aims to develop new reagents, methods and knowledge about interactions of hosts and pathogens in and on mucosal surfaces in fish (pathogenesis/infection biology).
- **FUNtox:** Fungi and mycotoxins in a One Health perspective aims through interdisciplinary research to promote good animal and human health by ensuring feed and food safety.
- **Animal welfare:** Animal welfare is a strategic research area for both fish and terrestrial animals in i.e. developing objective welfare indicators to promote good health and assist animal and health authorities, livestock owners and industry.
- **Salmon lice - epidemiological approach:** Aims to develop both tools and knowledge about the occurrence of lice and resistance development, and knowledge about the effects of new measures to combat lice infections.
- **Biosecurity in aquaculture:** Aims to improve methods and strategies for controlling the spread of important infectious diseases in farmed fish, applying wide-ranging hygienic principles and monitoring systems. The principal concerns are to prevent the introduction of specific disease agents to individual fish farm, regions, or the entire country.

International networks

- Close collaboration with public institutions, universities and research institutes, industrial companies and other international professional bodies.
- Participation in international scientific networks through collaboration in research projects.
- Strong cooperation within research and innovation, diagnostics and biosecurity/emergency preparedness with: European partners; Norway's priority countries outside the EU such as Brazil, Canada, China, India, Japan, South Africa and USA; and other countries with strong focus on aquaculture and One health such as Australia, Chile, Colombia, Ghana, Irak, Iran, New Zealand, South Korea or Vietnam.

Collaborations



This map visualizes some of the countries that researchers from the Norwegian Veterinary Institute have collaborated with.

EFSA: Monitoring and collection of data on the occurrence of zoonoses, antimicrobial resistance and food-borne outbreaks.

COST Actions: Participation in COST Actions to build the basis for future international collaborations and strengthen the institution's contingency planning and diagnostic capability. Projects on African Swine Fever, One Health, Poultry Red Mite, Dairy Care and Corona Virus.

European Aquaculture Technology and Innovation Platform (EATip):

Developing and supporting aquaculture in Europe to establish a strong relationship between aquaculture and the consumer.

Seminars and conferences

- Organising seminars and conferences on relevant issues to offer a professional platform to discuss problems related to animal and fish health and welfare and challenges regarding food safety and the environment.

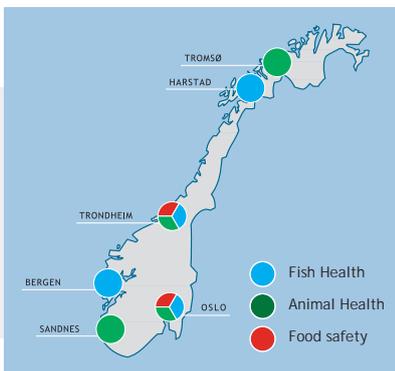
Our history

The Norwegian Veterinary Institute was established in Oslo in 1891 as a diagnostic laboratory for animal diseases. During the 1990s, it expanded to include regional units in Bergen, Harstad, Sandnes, Trondheim and Tromsø. The original principal task of the Norwegian Veterinary Institute was to combat tuberculosis and brucellosis. Today, our activities encompass the entire food chain from plants, via animal feed, fish, animals and food for human consumption.

Key dates

1891	Established in Oslo as a diagnostic laboratory for animal diseases in order to abolish severe animal diseases in Norway
1914	Moved to Adamstua
1970	Started working on fish diseases
1991	Regional laboratories opened in Bergen, Harstad, Sandnes, Trondheim and Tromsø
1995	Food Safety became a core activity at the institute
1997	Became an administrative body with its own board
1999	Norwegian Zoonose Centre established
2014	Celebrated 100 years at Adamstua
2015	Aquatic biosecurity and antimicrobial resistance became new initiatives
2016	CWD detected for the first time in Europe and for the first time ever in wild reindeer
2016	Celebrated 125 years anniversary of the institute
2016-2017	40 000 CWD tests analysed
2017	Norwegian Veterinary Institute contributes to the traffic light system for the aquaculture
2018	Norwegian Veterinary Institute Bergen moves to Marineholmen
2018	Norwegian Veterinary Institute designated by OIE as the international reference laboratory for Chronic Wasting Disease (CWD) in Europe
2020	Will move Headquarters to Ås

Regional units



Our regional units will seek stronger cooperation with regional knowledge hubs within research and knowledge-based enterprises. New facilities will create new opportunities for our five regional laboratories, which are strategically located along the coast.

New capacities and opportunities

- The Oslo headquarters of the Norwegian Veterinary Institute will move to new facilities at Ås outside Oslo in 2020
- The modern new unit will be a significant boost to our activities.
- At Ås, the Norwegian Veterinary Institute will be co-located with the Norwegian University of Life Sciences.



“The new Veterinary Science building will form part of the largest knowledge cluster within the green and blue sectors in Norway. Campus Ås will gather the best expertise in this country within research and education for Norwegian food production and animal welfare. State-of-the-art facilities will help raise the quality of both research and education”.

Jon Georg Dale, Minister of Agriculture and Food, in May 2016, laying the foundation stone for Campus Ås.



Jon Georg Dale, Minister of Agriculture and Food, in May 2016 when laying the foundation stone for Campus Ås.

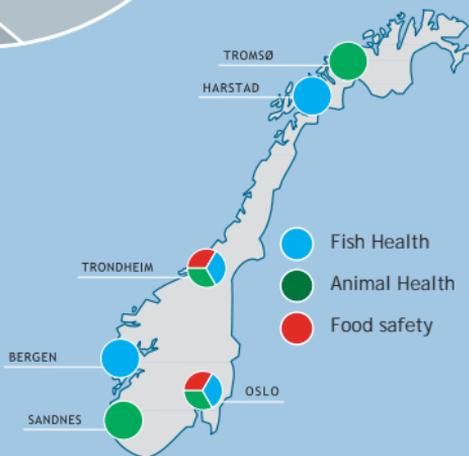


The building site at Ås in January 2018.

The new facility at Ås will enhance biological research, development and education in Norway. The new veterinary facilities will provide new and unique opportunities to raise the level of service provided by the Norwegian Veterinary Institute.



The Norwegian Veterinary Institute was established in Oslo in 1891 as a diagnostic laboratory for animal diseases. Today's activities encompass the entire chain from plants, via animal feed, fish, animals and food for human consumption.



Scientifically ambitious, forward-looking and cooperative – for One Health!



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