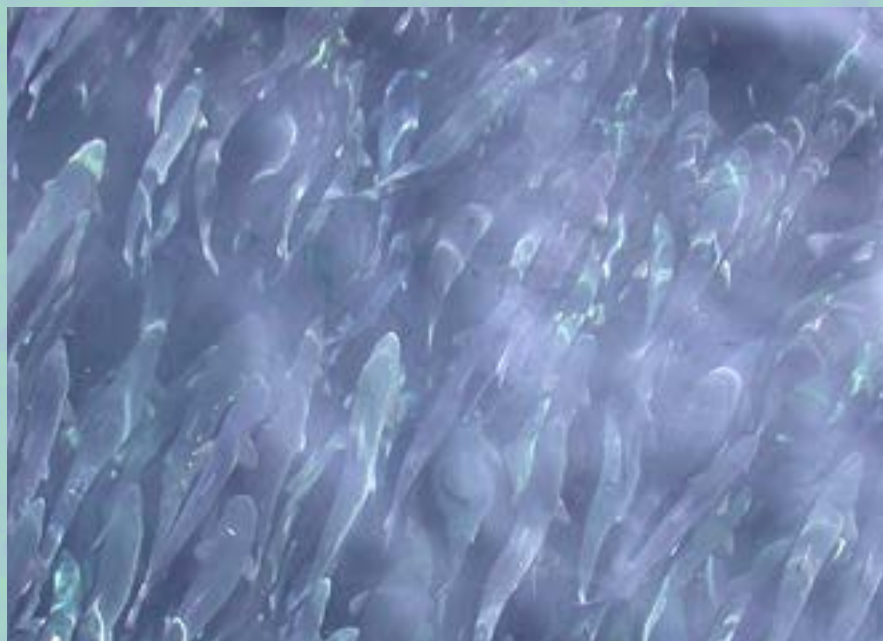


The surveillance programme for pancreas disease (PD) in Norway 2015



Surveillance programmes for terrestrial and aquatic animals in Norway

Annual report 2015

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The surveillance programme for pancreas disease (PD) in Norway 2015

Anne-Gerd Gjevre, Ingebjørg Modahl, Britt Bang Jensen

Salmonid alphavirus (SAV), the etiological agent of pancreas disease (PD), was detected in samples from one farm with Atlantic salmon in the surveillance zone (Nord-Trøndelag, Nordland, Troms and Finnmark) in the 2015 programme.

Introduction

Pancreas disease (PD) is a contagious disease in salmonid fish caused by salmonid alphavirus (SAV). PD caused by SAV3 has since 2003 been endemic along the west coast of Norway north to Hustadvika in Møre og Romsdal (the SAV3 endemic zone). In 2007 PD became a national notifiable disease (list 3) and the Norwegian Food Safety Authorities (NFSA) established national regulations in order to handle the disease (1, 2). In 2010 PD caused by SAV2 was for the first time detected in a farm with Atlantic salmon in Mid Norway. In 2012 a SAV2 endemic zone from Hustadvika to the border between Sør-Trøndelag and Nord-Trøndelag was established, with an observation zone covering the coast of Nord-Trøndelag (2).

In 2015 PD was diagnosed or suspected in a total of 137 fish farms, which is at the same level as reported 2014 (3).

Aim

In 2014 the NFSA decided to establish a new surveillance programme for PD in the four northern counties (Nord-Trøndelag, Nordland, Troms and Finnmark).

The aim of the programme was to monitor the occurrence of SAV in SAV-free regions in the northern part of Norway during 2014 and 2015 in order to obtain a PD-free status in this part of the country.

Materials and methods

The 2015 surveillance programme for PD was based on sampling of farmed fish from six defined areas (Figure 1). Surveillance zone 1 included all farms in Nord-Trøndelag that were screened for SAV according to national regulations (2). In the surveillance zones 2-6 within Nordland, Troms and Finnmark, all farms located within a 20 km zone from a site where PD was diagnosed in 2004 or later, were included in the program.

In zone 1 and 2 sampling was done by the fish farmers according to regulations given by the NFSA (2), which means monthly sampling of 20 fish. In zone 3-6 the sampling was done by the NFSA itself. At each site 30 fish was to be sampled twice during 2015. Sampling of moribund and newly dead fish was emphasised. Sampling should also be done if fish was transported through a SAV-positive area into the surveillance zone.

Samples (apex of heart) received on RNAlater™ were processed and analysed for SAV by real-time RT-PCR at the Norwegian Veterinary Institute (4), and at PatoGen Analyse AS.

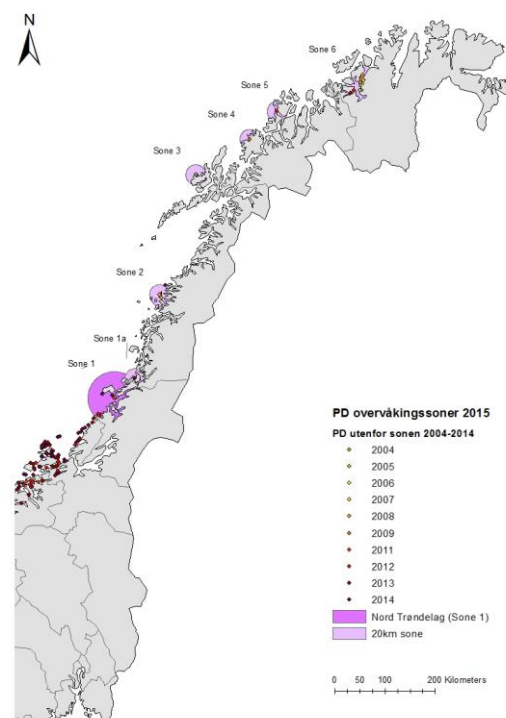


Figure 1. Surveillance zones in the 2015 surveillance programme for PD.

Results

Fish samples submitted to the surveillance programme comprised 54 farms with Atlantic salmon (Table 1 and Figure 2). A total of 16 farms submitted samples only once during 2015.

In the surveillance programme SAV was detected in samples from one farm with Atlantic salmon in Nord-Trøndelag. The PD-diagnosis was confirmed by histopathology.

Table 1. Number of samples from fish investigated for SAV in the surveillance programme in 2015. The samples are grouped according to species.

Species	Sampled sites	Number of samples	Positive sites
Atlantic salmon	54	3 712	1
Rainbow trout	0	0	0
Total	54	3 712	1

Discussion and conclusion

In the 2015 surveillance programme PD-virus was detected in samples from one farm with Atlantic salmon (Figure 2, Table 1).

A proportion of the monitored sites were sampled only once. The reason for this is most likely that the sites stocked fish only part of the year. Since no PD-virus was detected in the surveillance zones 2-6 during 2014-2015, the area from the border between Måløy and Gildeskål municipalities in Nordland county and the rest of Norway north of this border could be declared PD-free as according to OIE guidelines (figure 3). Since PD was detected in two areas in Nordland south of this border, the surveillance should be continued in two surveillance zones surrounding the sites of virus detection through 2016 and 2017.

References

1. National regulation 2007-11-20 nr.1315
2. National regulation 2012-11-06 nr. 1056
3. Bornø G & Lie Linaker M (eds) Fish Health report 2014. Oslo: Norwegian Veterinary Institute; 2015
4. SAV primers and probe (QnsP1 gene) from Hodneland and Endresen (2005), J Virol Methods 131(2):184-92.

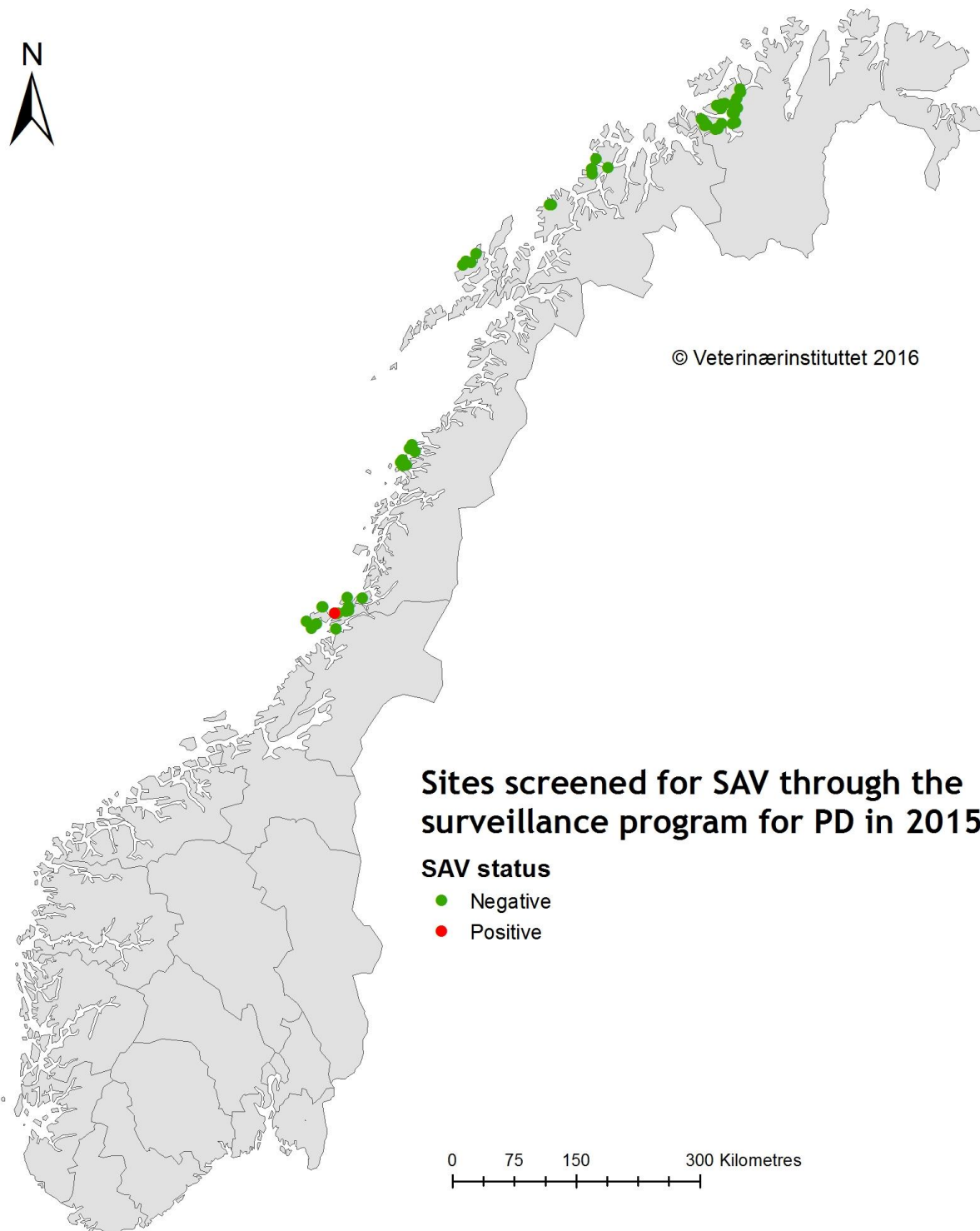


Figure 2. Map of sites sampled and investigated for SAV in the 2015 surveillance programme for PD.

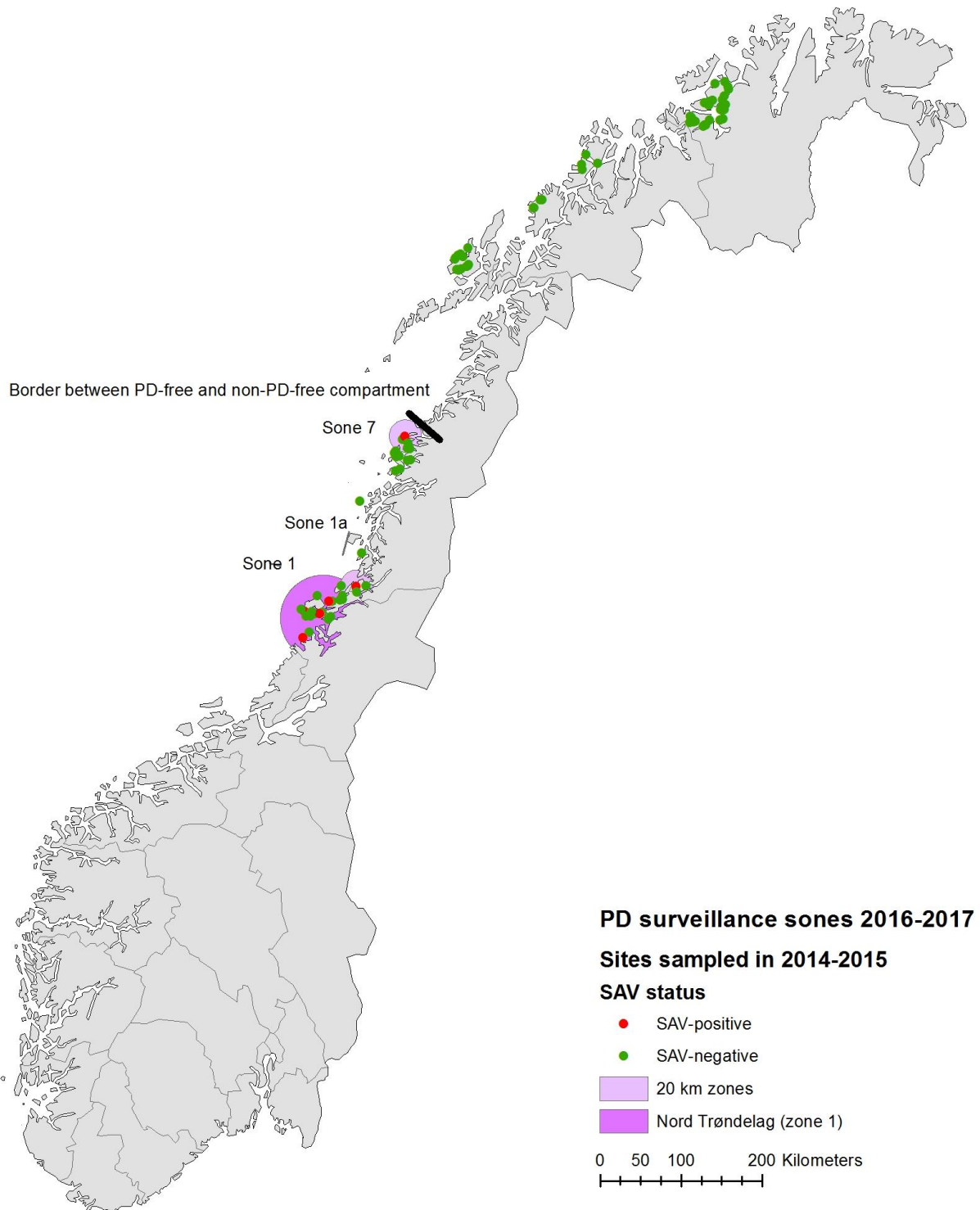


Figure 3. Map of sites sampled and investigated for SAV in the 2014-2015 surveillance programme for PD, suggested border for PD-free compartment and surveillance zones in the 2016-2017 surveillance program.

The Norwegian Veterinary Institute (NVI) is a nationwide biomedical research institute and Norway's leading centre of expertise regarding biosafety in aquatic and terrestrial animals. The aim of the Institute is to become Norway's contingency centre of preparedness for One Health.

The primary mission of the NVI is to give research-based independent advisory support to ministries and governing authorities. Preparedness, diagnostics, surveillance, reference functions, risk assessments, and advisory and educational functions are the most important areas of operation. The Institute has its main laboratory in Oslo, with regional laboratories in Sandnes, Bergen, Trondheim, Harstad and Tromsø, with about 330 employees in total.

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The Norwegian Food Safety Authority (NFSA) is a governmental body whose aim is to ensure through regulations and controls that food and drinking water are as safe and healthy as possible for consumers and to promote plant, fish and animal health and ethical farming of fish and animals.

We encourage environmentally friendly production and we also regulate and control cosmetics, veterinary medicines and animal health personnel. The NFSA drafts and provides information on legislation, performs risk-based inspections, monitors food safety, plant, fish and animal health, draws up contingency plans and provides updates on developments in our field of competence. The NFSA comprises two administrative levels, five regions in addition to the head office, and has some 1250 employees. The NFSA advises and reports to the Ministry of Agriculture and Food, the Ministry of Trade, Industry and Fisheries and the Ministry of Health and Care Services.

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