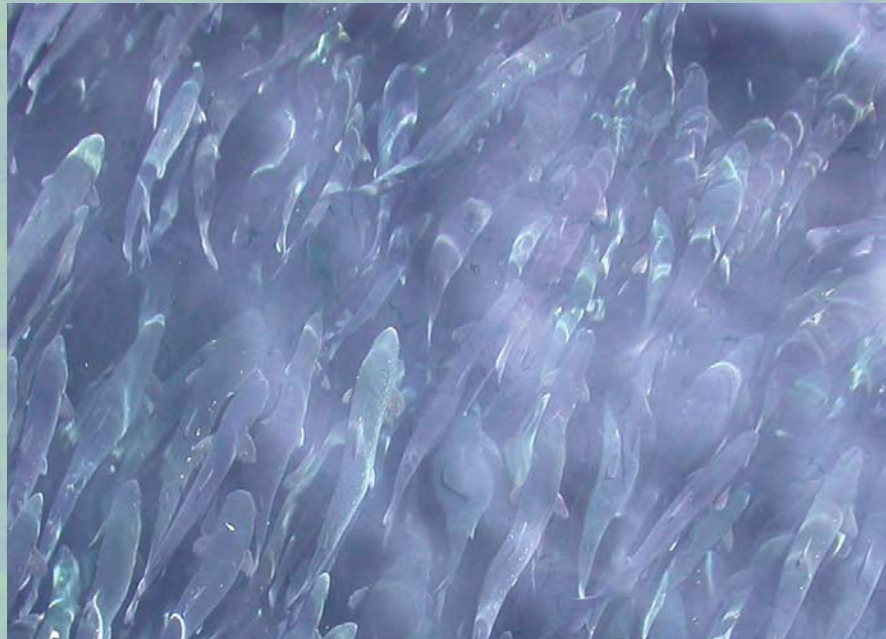


The surveillance programme for pancreas disease (PD) in Norway 2014

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Surveillance programmes for terrestrial and aquatic animals in Norway

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The surveillance programme for pancreas disease (PD) in Norway 2014

Anne-Gerd Gjevre and Mona Dverdal Jansen

Salmonid alphavirus (SAV), the etiological agent of pancreas disease (PD), was detected in samples from two farms with Atlantic salmon in the surveillance zone (Nord-Trøndelag, Nordland, Troms and Finnmark) in the 2014 programme. Independent of the surveillance programme three additional detections of SAV were reported in the surveillance zone.

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 stretching 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 2014 PD was diagnosed or suspected in a total of 142 fish farms, which is an increase compared to the 100 PD cases reported in 2013 (3). This is mainly due to the increase in SAV3-positive farms in the endemic zone from 48 to 89. Correspondingly, the increase of SAV2-positive farms was from 52 to 54 during this period. In one farm both SAV2 and SAV3 was detected.

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 Norwegian Veterinary Institute coordinates the programme and publishes the overall results in monthly and annual reports available on the NVI website (www.vetinst.no). Fish samples were analysed by PatoGen Analyse AS.

Aim

The aim of the programme was to monitor the level 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 2014 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 comprising Nordland, Troms and Finnmark, all farms located within a 20 km zone from a site where PD was diagnosed in 2004 or later, was included in the program.

In zone 1 sampling was done by the fish farmers according to regulations given by the NFSA (2), that means monthly sampling of 20 fish. In zone 2-6 the sampling was done by the NFSA itself. At each site 30 fish should be sampled twice during 2014. Sampling of moribund and newly dead fish should be 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.

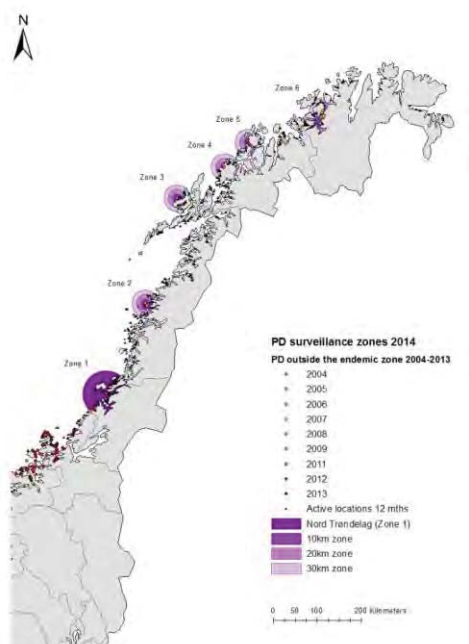


Figure 1. Surveillance zones the 2014 surveillance programme for PD.

Results

Fish samples submitted to the surveillance programme comprised 71 farms with Atlantic salmon (Table 1 and Figure 2). A total of 32 sites submitted samples only once during 2014.

In the surveillance programme SAV was detected in samples from two farms with Atlantic salmon in Nordland and in both cases the PD-diagnoses was confirmed by histopathology.

Table 1. Fish samples investigated for SAV in the surveillance programme in 2014. The samples are grouped according to species.

	Atlantic salmon	Rainbow trout	Total
No. sites	71	0	71
No. samples investigated	3942	0	3942
No. positive sites	2	0	2

Discussion and conclusion

In the 2014 surveillance programme PD was detected in samples from two out of 27 sampled farms with Atlantic salmon in Nordland in 2014 (Figure 2, Table 1). However, independent of the surveillance programme three additional detections of SAV were reported in surveillance zone nr. 1 (Nord-Trøndelag). These cases were discovered by disease investigation.

A proportion of the monitored sites were sampled only once, however the reason for this is currently unknown. It may be that the sites stocked fish only part of the year, and it would be useful to receive such information for future interpretation of the results.

References

1. National regulation 2007-11-20 nr.1315
2. National regulation 2012-11-06 nr. 1056
3. Hjeltnes B (ed) Fish Health report 2013. Oslo: Norwegian Veterinary Institute; 2014

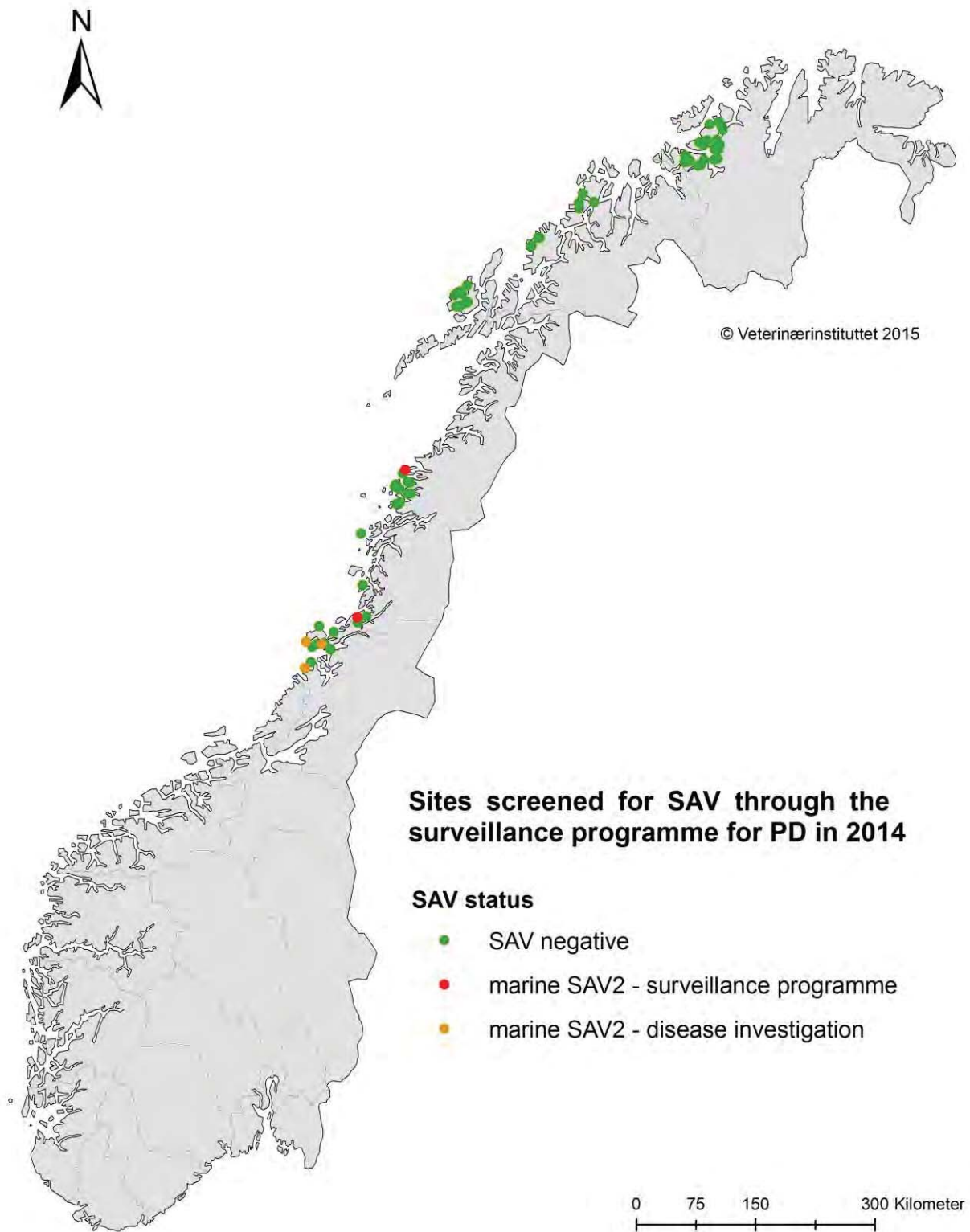


Figure 2. Map of sites sampled and investigated for SAV in the 2014 surveillance programme for PD. Yellow bullets indicate PD-positive sites that not were detected by the surveillance programme.

The Norwegian Veterinary Institute (NVI) is a nationwide research institute in the fields of animal health, fish health, and food safety. 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.

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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 three administrative levels, and has some 1300 employees.

The NFSA advises and reports to the Ministry of Agriculture and Food, the Ministry of Fisheries and Coastal Affairs and the Ministry of Health and Care Services.

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