

The surveillance programme for pancreas disease (PD) in 2016



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Content

Summary	3
Introduction	3
Aims	3
Materials and methods	3
Results and Discussion	4
References	4

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Summary

Salmonid alphavirus (SAV), the etiological agent of pancreas disease (PD), was not detected in samples submitted in conjunction with the 2016 surveillance programme from farms with Atlantic salmon in the surveillance zone (Nord-Trøndelag, Nordland, Troms and Finnmark). SAV was detected in samples from two farms in Sør-Trøndelag and two farms in Nord-Trøndelag in diagnostic samples.

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 2016 PD was diagnosed or suspected in a total of 138 fish farms, which is at the same level as reported 2015 (3).

Aims

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 in order to obtain a PD-free status in this part of the country.

Materials and methods

The 2016 surveillance programme for PD was based on sampling of farmed fish from three defined areas (Figure 1). Surveillance zone 1 included all farms in Nord-Trøndelag that were screened for SAV according to national regulations (2). Surveillance zones 1a and 7 included all farms in a 20 km zone around two sites in Nordland diagnosed with PD in 2014.

In all three zones sampling was done by the fish farmers according to regulations given by the NFSA (2). At each site 30 fish was to be sampled twice during 2016. 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 RNeasyTM were processed and analysed for SAV by real-time RT-PCR at a PatoGen Analyse AS and Labora AS.

Results and Discussion

Fish samples submitted to the surveillance programme comprised 22 farms with Atlantic salmon (Table 1 and Figure 1).

Table 1. Number of samples from fish investigated for SAV in the surveillance programme in 2016.

Species	Sampled sites	Number of samples	Positive sites
Atlantic salmon	22	3 073	0
Total	22	3 073	0

Following the initiation of the 2016 surveillance programme, a local initiative between the fish farmers and the local NFSA-office resulted in additional monthly screening of fish farms in the southern part of Nordland. The results from this additional screening were submitted together with the results from the surveillance programme (Figure 2). As a result of this increased screening only one site in the surveillance programme was sampled only once during 2016.

A total of four farms north of the PD endemic zones tested positive for SAV on samples submitted for disease investigation (two farms in Nord-Trøndelag) or the additional screening programme (two farms in Nordland) (Figure 2). All four cases had PD confirmed by histopathology and all farms were rapidly depopulated.

Based on the available information it is recommended that new, 20 km surveillance zones are defined around the two SAV-positive sites in Nordland. The sampling in zone 1, as defined by the current regulations, should be maintained and the results should be included in the 2017 surveillance programme. Similarly, available results from the additional screening in southern Nordland should also be included in the 2017 surveillance programme.

References

1. National regulation 2007-11-20 nr.1315
2. National regulation 2012-11-06 nr. 1056
3. Hjeltnes, B., Bornø, G., Jansen, M. D., Haukaas, A., Walde, C. (red), Fiskehelserapporten 2016, Veterinærinstituttet 2017

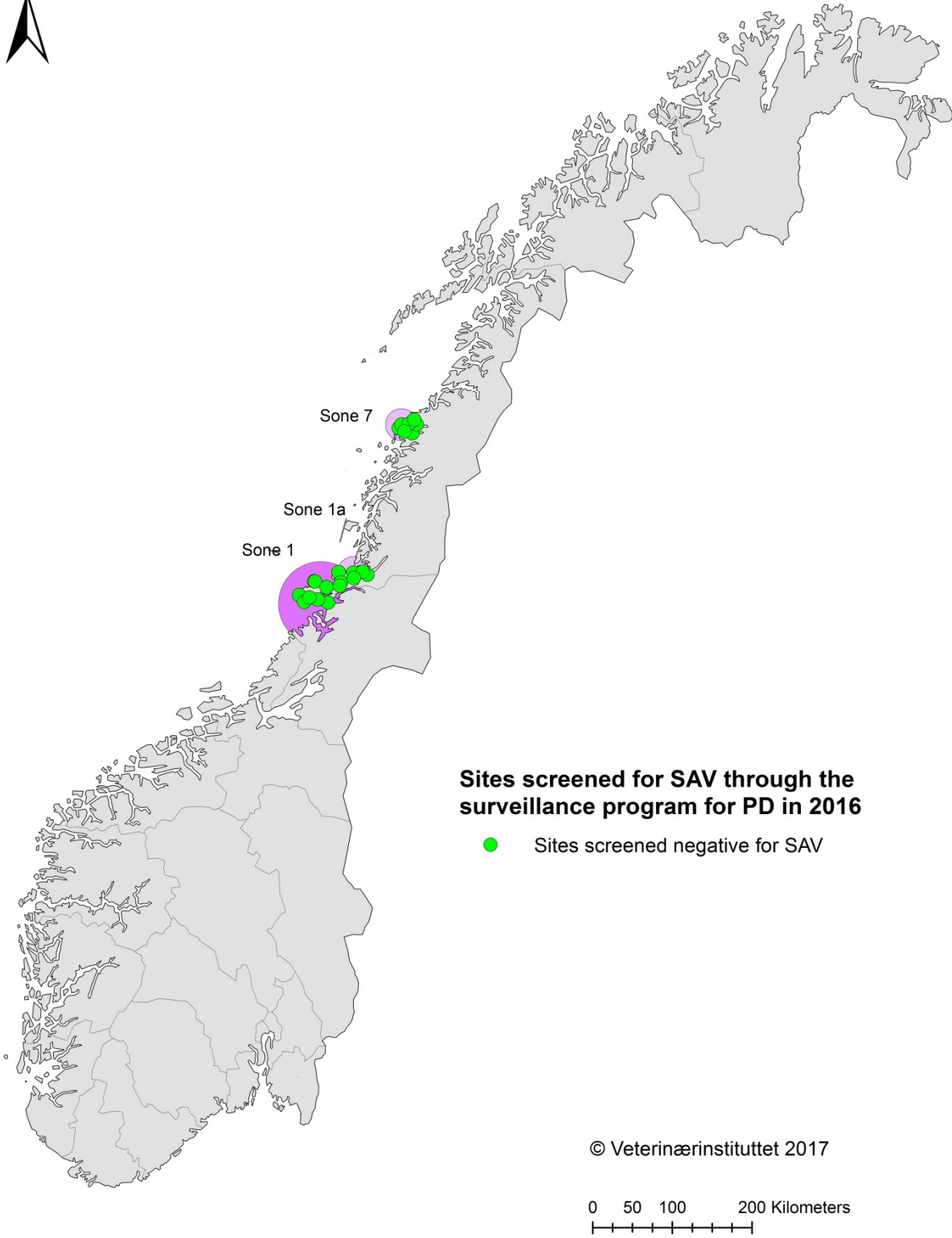


Figure 1. Map of farms sampled for the 2016 SAV surveillance programme.

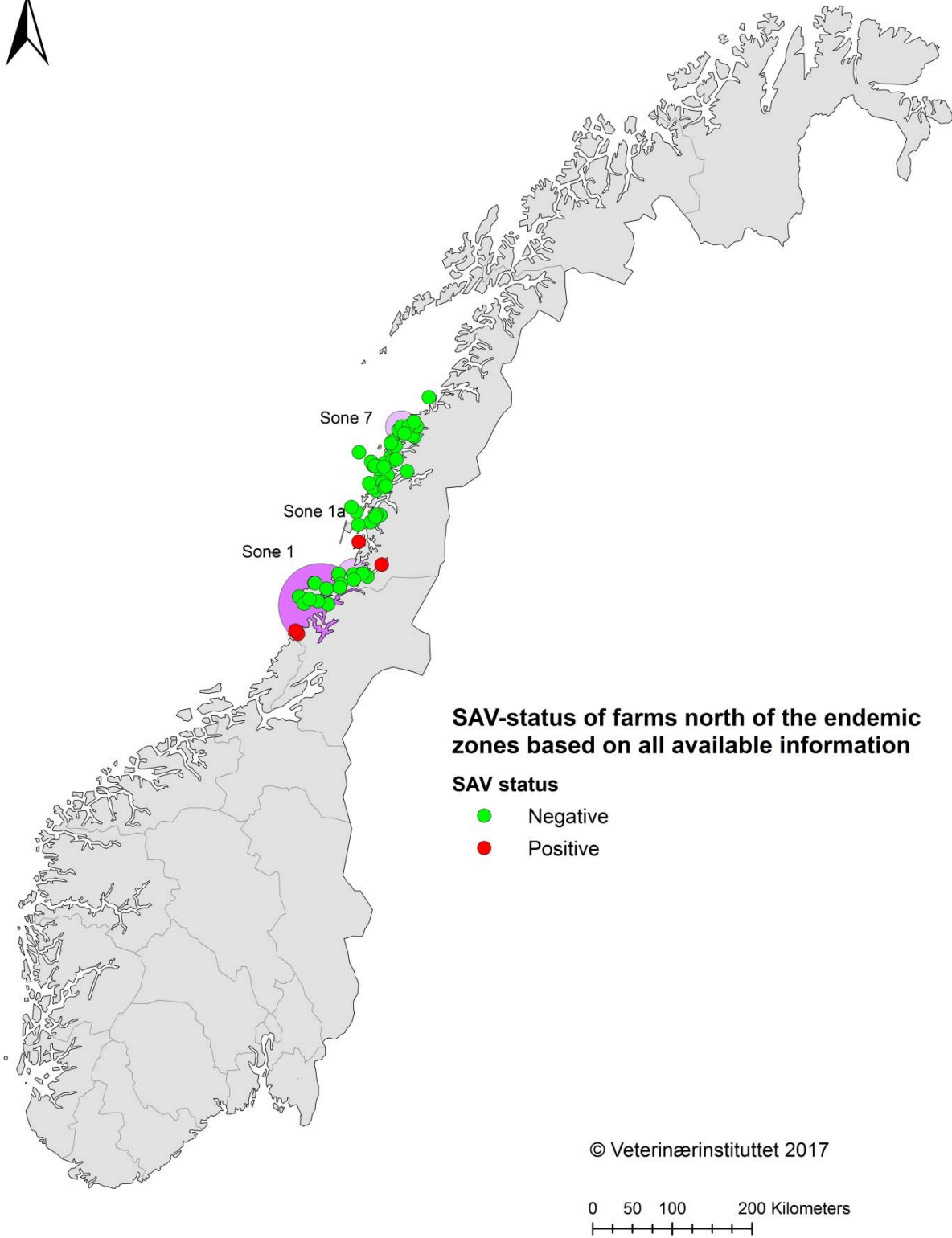


Figure 2. Map of SAV-status for farms located north of the PD endemic zones, based on information from the 2016 SAV surveillance program, the additional screening programme in southern Nordland and diagnostic information of PD-diagnoses in 2016.

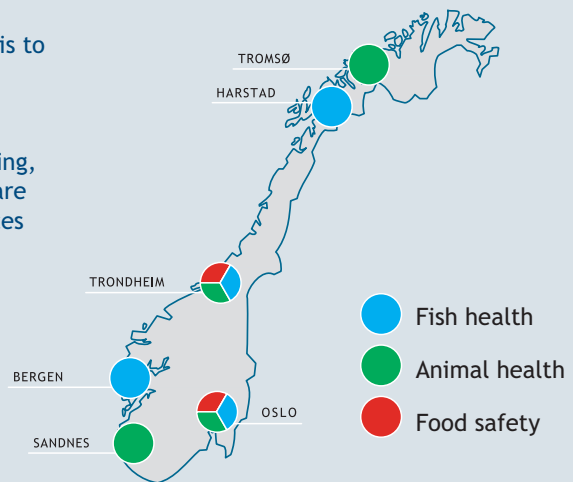
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