

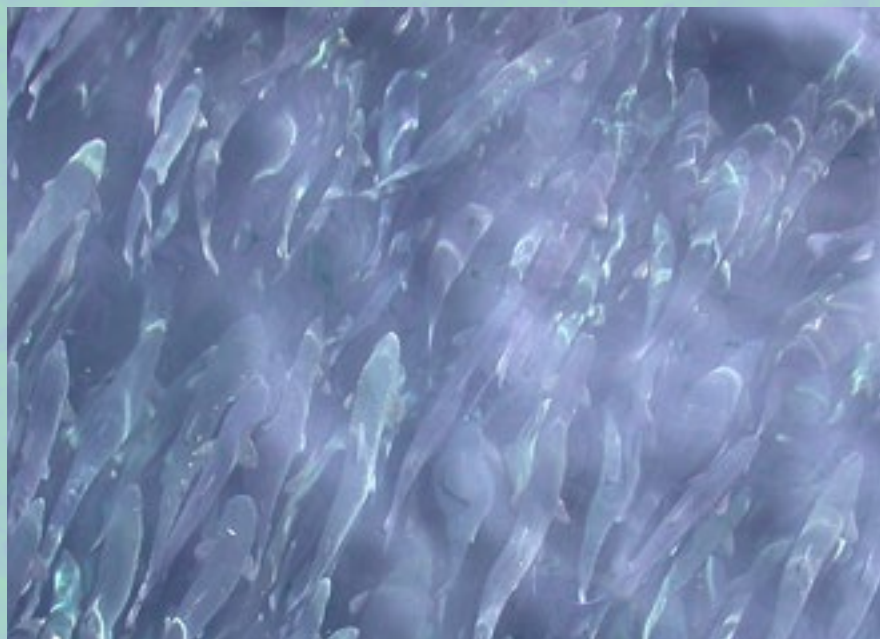
The surveillance programme for pancreas disease (PD) in Norway 2013

Anne-Gerd Gjevre

Irene Ørpetveit

Mona Dverdal Jansen

Trude M Lyngstad



Surveillance programmes for terrestrial and aquatic animals in Norway

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Project managers at the Norwegian Veterinary Institute:

Ståle Sviland (Terrestrial animals)
Anne-Gerd Gjevre (Aquatic animals)
Mona Torp (Food safety)

Publisher

Norwegian Veterinary Institute
PO Box 750 Sentrum
N-0106 Oslo
Norway

Fax: + 47 23 21 60 95
Tel: + 47 23 21 60 00
E-mail: postmottak@vetinst.no
www.vetinst.no

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Authors:

Anne-Gerd Gjevre, Irene Ørpetveit, Mona Dverdal Jansen, Trude M Lyngstad

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The surveillance programme for pancreas disease (PD) in Norway 2013

Anne-Gerd Gjevre, Irene Ørpetveit, Mona Dverdal Jansen, Trude M Lyngstad

Salmonid alphavirus (SAV), the etiological agent of pancreas disease (PD), was detected in samples from 8 farms with Atlantic salmon north of Hustadvika in Møre og Romsdal, in Sør-Trøndelag, and 2 farms in Finnmark in the 2013 surveillance programme. Independent of the surveillance programme 42 new detections of SAV were reported north of the PD-endemic zone. These results indicate that the surveillance programme for PD needs revision.

Introduction

Pancreas disease (PD) is a contagious disease in salmonid fish caused by salmonid alphavirus (SAV). PD has since 2003 been endemic along the west coast of Norway north to Hustadvika (Figure 1) in Møre og Romsdal (the 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 2013 PD was diagnosed or suspected in a total of 99 fish farms, which is a decrease compared to the 137 PD cases reported in 2012 (3). However, there has been an increase in SAV2-positive farms compared to 2012. This is mainly due to the SAV2 epidemic in the counties of Møre og Romsdal and Sør-Trøndelag.

In 2012 the NFSA decided to establish a surveillance programme for PD north of the endemic zone. The Norwegian Veterinary Institute coordinates the programme and publishes the overall results in monthly and annual reports. Fish samples are analysed at the Norwegian Veterinary Institute or at PatoGen Analyse AS.

<http://www.vetinst.no/Faktabank/Alle-faktaark/Pankreassykdom-PD>
<http://www.vetinst.no/eng/Research/Publications/Surveillance-and-Control-Programs-annual-reports>

Aim

The aim of the programme was to describe the level of occurrence of PD north of the endemic zone and to facilitate early detection of PD in this region.

Materials and methods

The 2013 surveillance programme for PD was based on SAV-analyses of tissue samples collected from salmonid farms localized north of the endemic zone. Sampling was done partly by fish health services in connection with disease investigation and partly by farmers for screening purposes, targeting moribund and newly dead fish.

Samples received on RNAlater™ were processed and analysed for SAV by real-time RT-PCR with primers and probe according to Hodneland and Endresen 2006 (4).

Results

Fish samples submitted in connection with disease investigations comprised 1 farm with rainbow trout and 31 farms with Atlantic salmon (Table 1, Figure 1). Samples submitted in connection with health monitoring or screening purposes comprised 2 farms with rainbow trout and 39 with Atlantic salmon (Table 2, Figure 1).

SAV was detected in samples from two farms with Atlantic salmon in Finnmark. These samples were submitted by the fish health services due to suspicion of PD (Figure 1, Table 1). SAV were furthermore detected in samples from eight farms with Atlantic salmon north of Hustadvika in Møre og Romsdal and in Sør-Trøndelag collected for screening purposes (Figure 1, Table 2)

Table 1. Fish samples investigated for SAV at Norwegian Veterinary Institute in 2013. The samples were submitted in connection with disease investigation. The samples are grouped according to species.

	Atlantic salmon	Rainbow trout	Total
No. sites	31	1	32
No. samples investigated	416	4	420
No. positive sites	2	0	2

Table 2. Fish samples investigated for SAV at PatoGen in 2013. The samples were submitted in connection with screening, but targeted towards fish with disease sign. The samples are grouped according to species.

	Atlantic salmon	Rainbow trout	Total
No. sites	39	2	40
No. samples investigated	888	66	954
No. positive sites	8	0	8

Discussion and conclusion

SAV was detected in samples from 2 out of 10 farms with Atlantic salmon in Finnmark in 2013 (Figure 1, Table 1). These positive samples were submitted to the Norwegian Veterinary Institute with suspected PD (disease investigation). The PD diagnosis on both these farms was confirmed with histopathology. SAV was also detected in samples from eight farms north of Hustadvika in Møre og Romsdal, and in Sør-Trøndelag collected for screening purposes (Figure 1, Table 2). However, independent of the surveillance programme 42 new detections of SAV were reported north of the PD-endemic zone. These detections were based on disease investigation or screening.

The strategy of using a selection of samples collected for screening purposes did not give a representative picture of disease occurrence in Møre og Romsdal and in Sør-Trøndelag; neither was early detection of PD facilitated in this region.

The result from the 2013 surveillance of PD does not comply with the aim of this surveillance activity. Therefore, a new programme focusing on establishment of PD-free segments is designed for 2014.

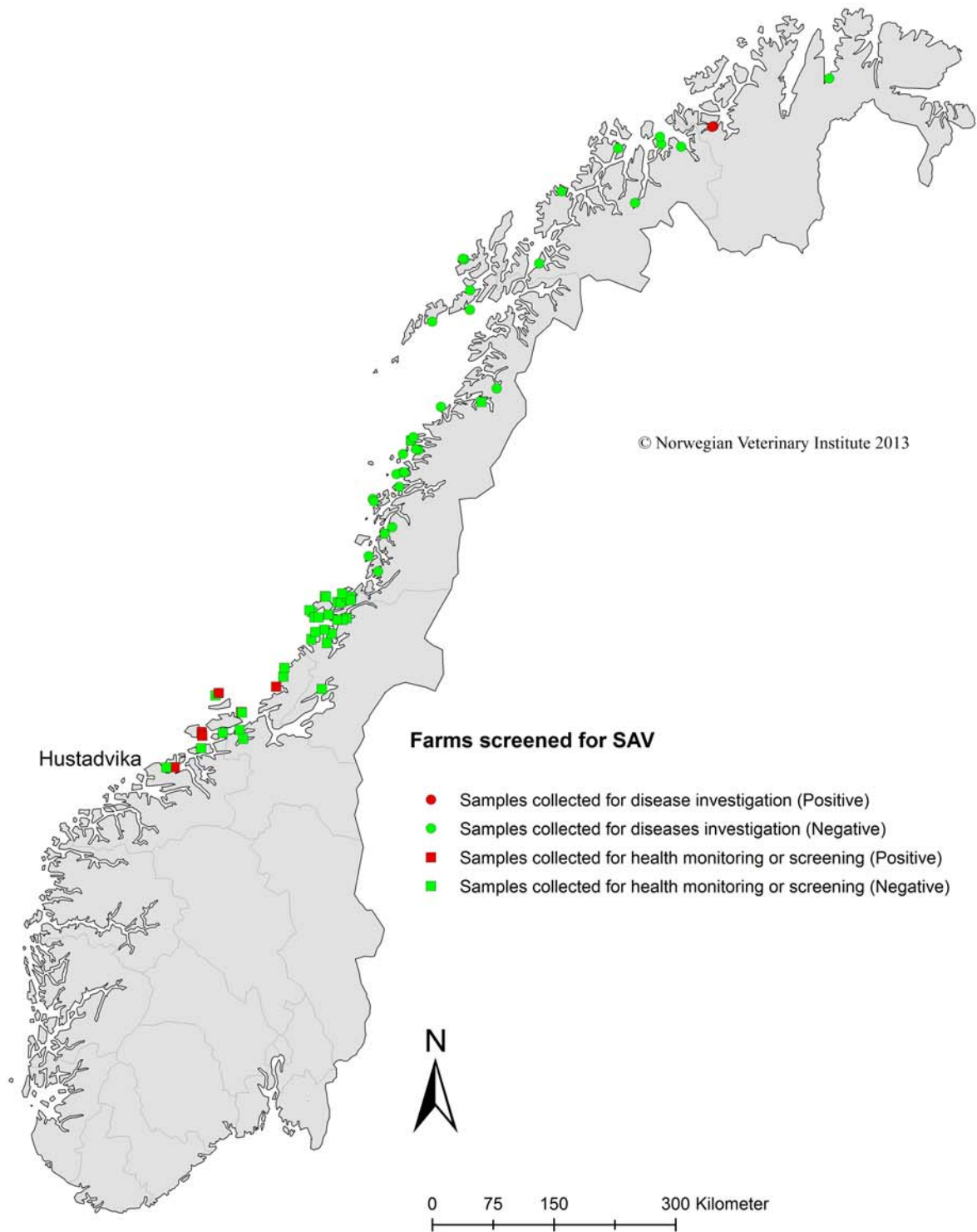


Figure 1. Map of sites sampled and investigated for SAV in the 2013 surveillance programme for PD

References

1. National regulation 2007-11-20 nr.1315
2. National regulation 2012-11-06 nr. 1056
3. <http://www.vetinst.no/eng/Research/Publications/Fish-Health-Report>
4. Hodneland K. & Endresen C. (2006) Sensitive and specific detection of salmonid alphavirus using real-time PCR (TaqMan). *Journal of Virological Methods* 131, 184-192.

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.

The Norwegian Veterinary Institute has its main laboratory in Oslo, with regional laboratories in Sandnes, Bergen, Trondheim, Harstad og Tromsø, with about 360 employees in total.

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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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