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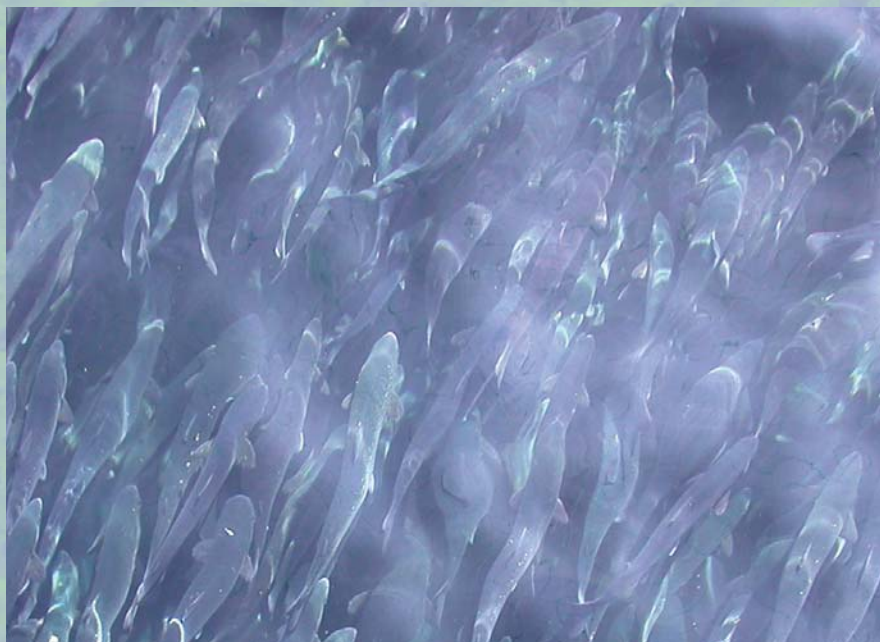
## The surveillance and control programme for pancreas disease (PD) in Norway 2012

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# Surveillance and control programmes for terrestrial and aquatic animals in Norway

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# The surveillance and control programme for pancreas disease (PD) in Norway 2012

Anne-Gerd Gjevre, Irene Ørpetveit, Trude M Lyngstad, Britt Bang Jensen

*Salmonid alphavirus (SAV), the etiological agent of pancreas disease (PD), was detected in samples from four farms with Atlantic salmon in Sør-Trøndelag, Troms and Finnmark in the 2012 surveillance programme. Independent of the surveillance programme 43 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) made national regulations to handle the disease (1, 2).

In 2012 PD was diagnosed or suspected in a total of 137 fish farms, which is an increase compared to 89 PD cases reported in 2011 (3). This is mainly due to an epidemic of SAV 2, a subtype of SAV previously unknown in Norway, 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 2012 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 10 farms with Atlantic salmon (Table 1, Figure 1). Samples submitted in connection with health monitoring or screening purposes comprised 9 farms with rainbow trout and 41 with Atlantic salmon (Table 2, Figure 1).

SAV was detected in samples from two farms with Atlantic salmon in Troms and 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 two farms in Sør-Trøndelag collected for screening purposes (Figure 1, Table 2)

**Table 1.** Fish samples investigated for SAV at Norwegian Veterinary Institute in 2012. The samples were submitted in connection with disease investigation. The samples are grouped according to species.

	Atlantic salmon	Rainbow trout	Total
No. sites	10	1	11
No. samples investigated	153	18	171
No. positive sites	2	0	2

**Table 2.** Fish samples investigated for SAV at PatoGen in 2012. 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	41	9	50
No. samples investigated	854	166	1020
No. positive sites	2	0	2

## Discussion and conclusion

SAV was detected in samples from 2 out of 10 farms with Atlantic salmon in Troms and Finnmark in 2012 (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 two farms in Sør-Trøndelag collected for screening purposes (Figure 1, Table 2). However, independent of the surveillance programme 43 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 2012 surveillance of PD does not comply with the aim of this surveillance activity and thereby needs to be revised.

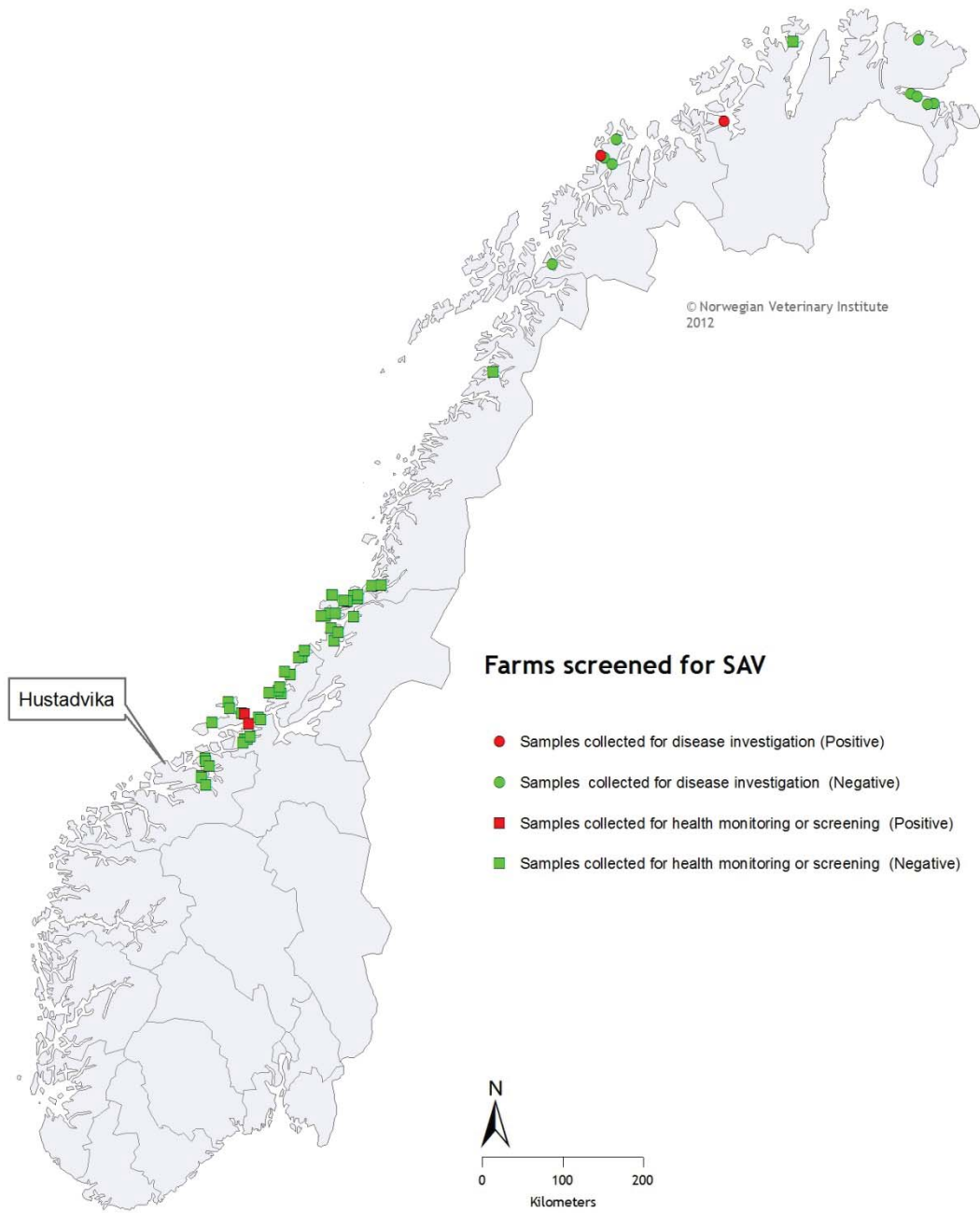


Figure 1. Map of sites sampled and investigated for SAV in the 2012 surveillance programme for PD

## 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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**Veterinærinstituttet**  
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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.

[www.mattilsynet.no](http://www.mattilsynet.no)

