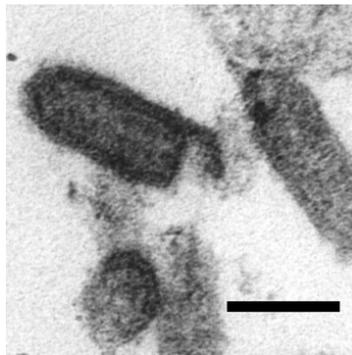


, Niels Jørgen Olesen, Argelia Cuenca, Niccolò Vendramin, Tine M. Iburg,
25th AW of the National Reference Laboratories for Fish Diseases, June 1st 2021

First outbreak of IHN in Denmark

IHN in Denmark for the first time ever

- Due to notification from a farm in Germany that IHN was suspected in rainbow trout imported from Denmark the CA initiated the 11th May 2021 an investigation on the exporting Enterprise.
- Samples were received 12th May and inoculated on cell culture. Clear CPE was observed and the CA notified May 17th. IHNV was confirmed by ELISA.
- In Germany IHNV was only detected in brain why brain was included in the Danish investigation. In the Danish fish IHNV was detected both in organs and brain.
- Almost no clinical symptoms in the fish (all table size)



The infected farm case 1

The CA notified the OIE and EU
Initiated an epidemiological investigation.

The farm (Stouby county) placed at
Rhoden Å water catchment to Jutland east
coast.

had significant trade internally in Denmark
and eksport to primarily Germany
The whole catchment given a Public
Oversight

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ALERT - ALERTE - ALERTA

Infectious haematopoietic necrosis virus (Inf. with), Denmark
Nécrose hématopoiétique infectieuse (Inf. par le virus de la), Danemark
Necrosis hematopoyética infecciosa (Inf. por el virus de la), Dinamarca

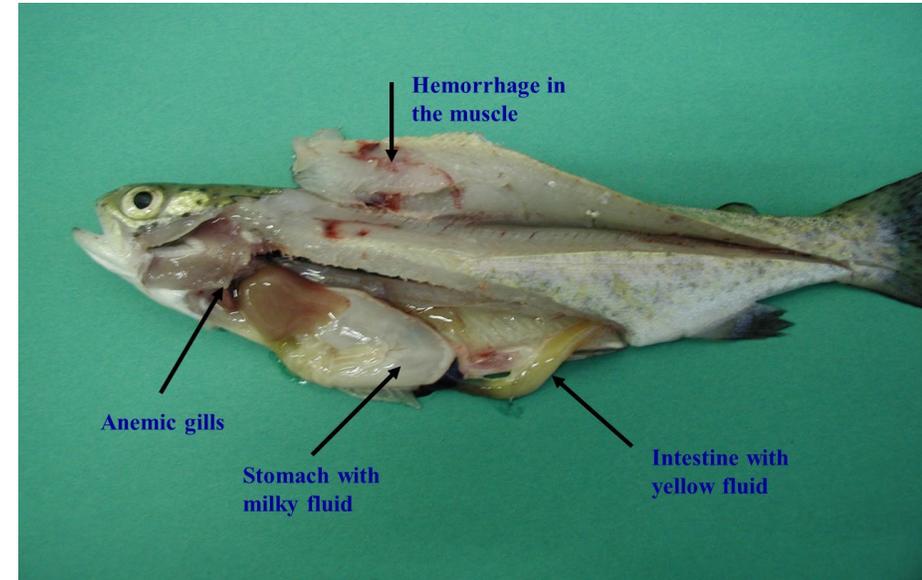
[Consult the report](#) | [Consulter le rapport](#) | [Consultar el informe](#)



The infected farm Case 1

The farm was revisited the 17th May and tested positive again both by cell culture and RT-PCR.

Only few external clinical signs, however bleeding in internal organs, swimbladder and muscle observed when opening the fish.



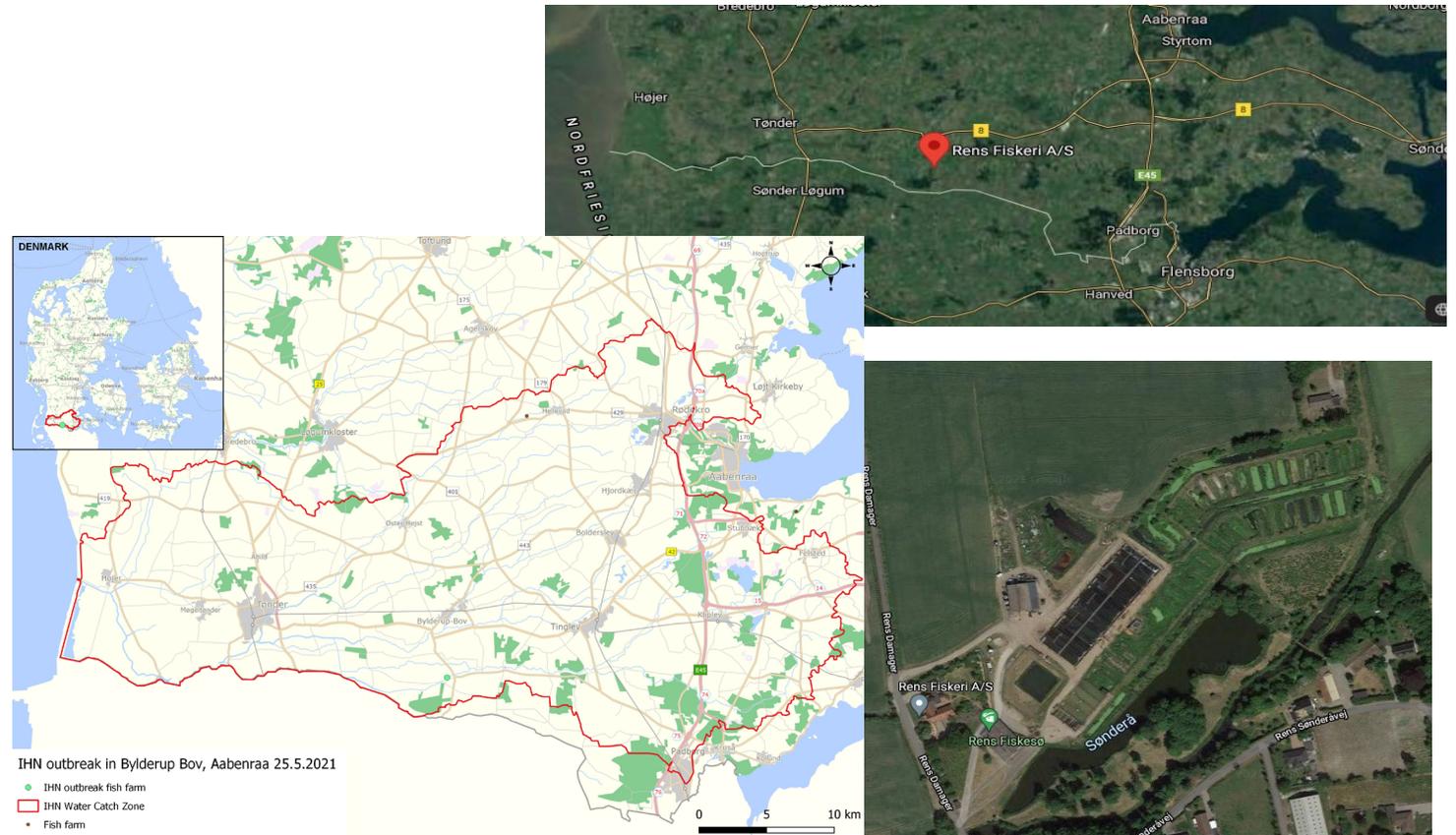
Contact farms case 2

Six contact farms were identified (farms that either delivered or received fish from Case 1 outbreak).

The farms were situated at 4 larger water catchments.

Preliminary laboratory testing:
25th May 21 A farm situated close to the German border tested positive.

New notification and restriction zone comprising the whole catchment of "Bylderup Bov"
Again very little clinic observed.



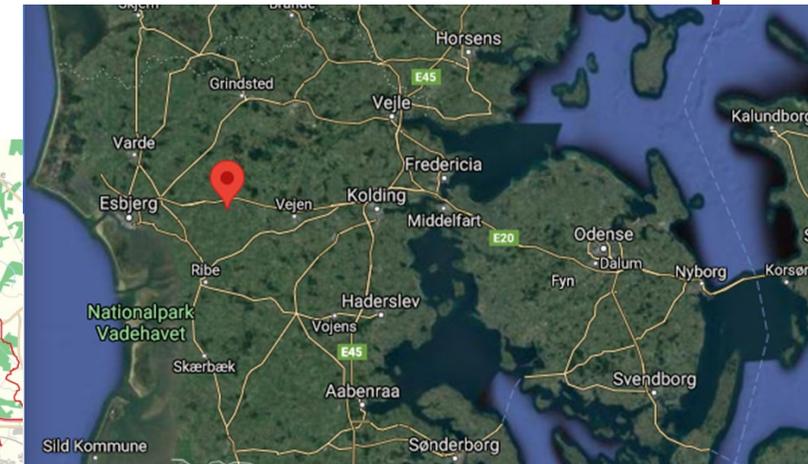
Following a new notification from Germany (due to the OIE notification) two new farms were inspected the 28th May and tested by RT-qPCR the 29th.

One of these (Gørklint Dambrug situated at Holsted Å (Sneum Å water catchment)) tested clearly positive.

Some disease have been observed previously by the veterinarian but without raising suspicion of IHN.

Further inspection on contact farms is ongoing

case 3



Trade consequences

Following notification to Finland that Aarup Mølle had delivered fish to a farm in Åland Island- the Finish CA have inspected the farm and tested it IHNV positive last week!

Multiple trade to Germany risk to have caused more outbreaks.



Organisation
Mondiale
de la Santé
Animale

World
Organisation
for Animal
Health

Organización
Mundial
de Sanidad
Animal

Immediate Notification - Notification Immédiate - Notificación Inmediata

Infectious haematopoietic necrosis virus (Inf. with), Finland

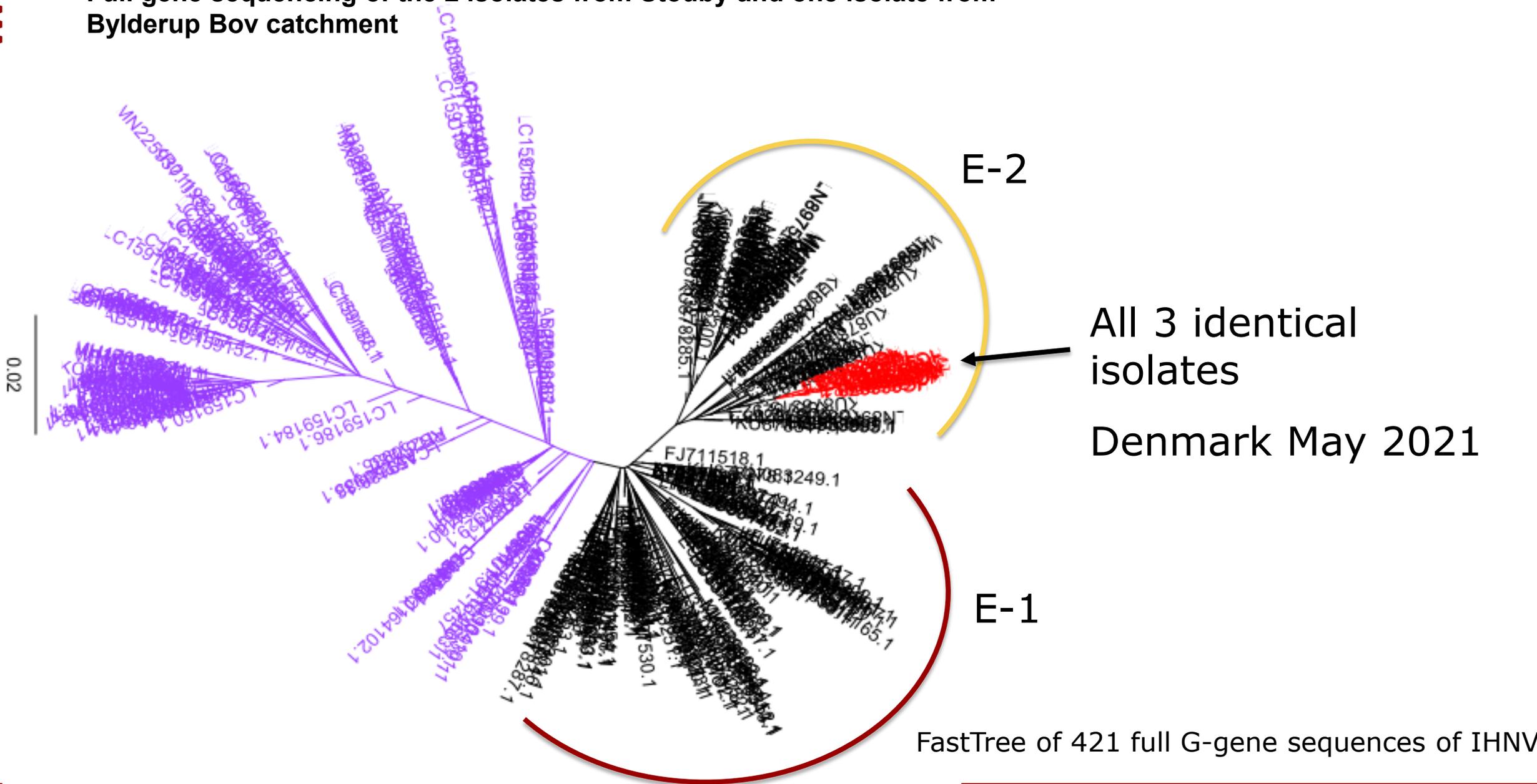
Nécrose hématopoiétique infectieuse (Inf. par le virus de la), Finlande

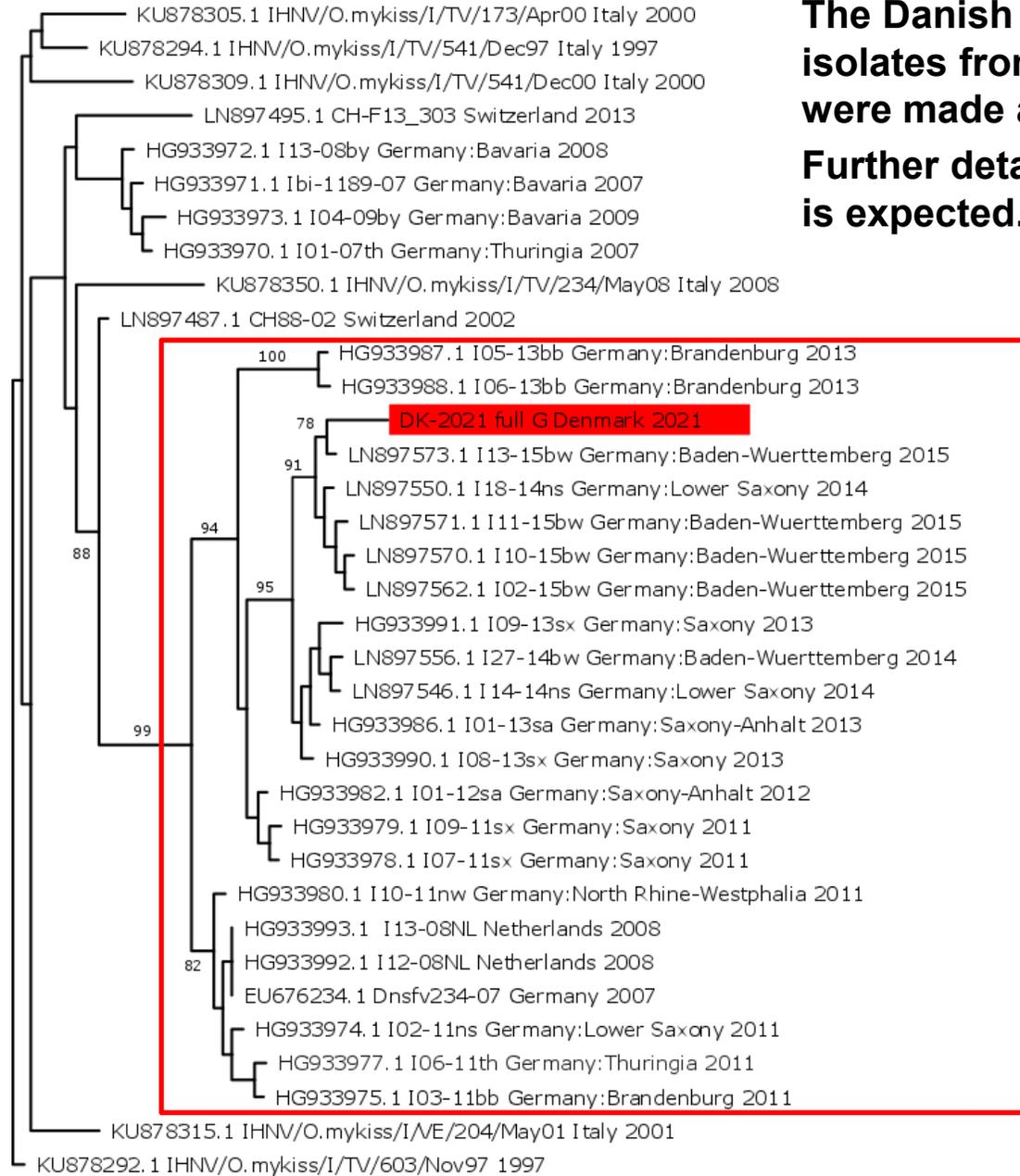
Necrosis hematopoyética infecciosa (Inf. por el virus de la), Finlandia

[Consult the report](#) | [Consulter le rapport](#) | [Consultar el informe](#)



Full gene sequencing of the 2 isolates from Stouby and one isolate from Bylderup Bov catchment

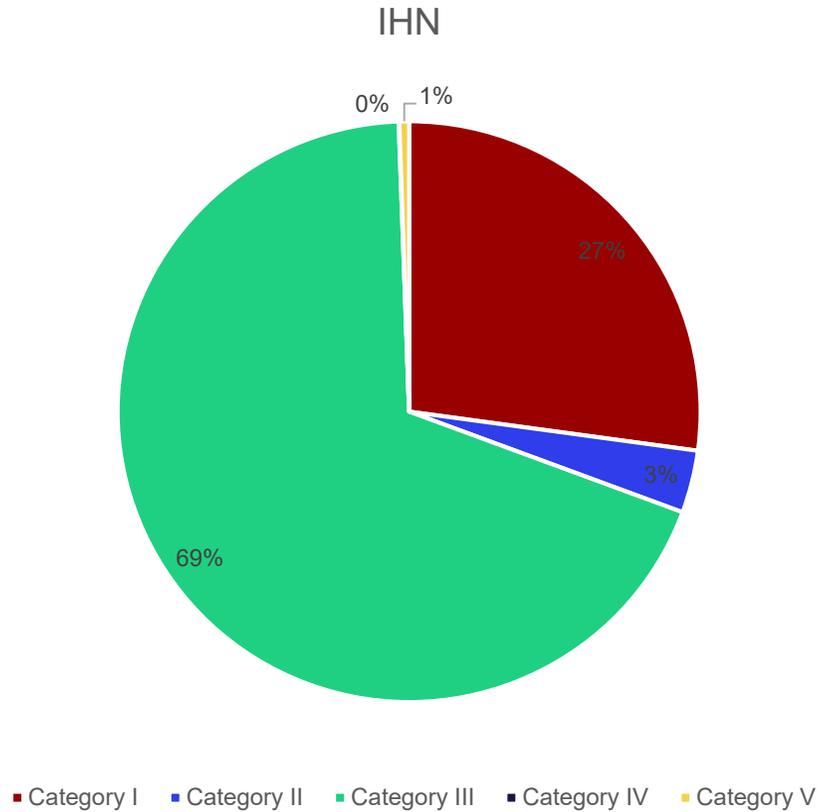




The Danish IHNV cluster closely to German isolates from 2013 and 2015 with sequences which were made available in GeneBank

Further detailed analysis in collaboration with FLI is expected.

Distribution of farms in zones and compartments according to category for IHN including 12601 farms



Category	# farms
1	3124
2	400
3	7915
4	4
5	62

Disease outbreaks - IHN

- 23 outbreaks reported
- 21 in Germany – high number of outbreaks from 2019
- 1 outbreak in France: Two outbreaks were detected in 2020, one through targeted surveillance, and the other following an increase of mortality in a salmonid fish farm. To notice that in 2020, French laboratories began to perform VHS and IHN diagnosis by real-time RT-PCR as official methods recognized by the ministry of agriculture. Some late Cts were observed for samples corresponding to asymptomatic fish. Homogenates were sent to NRL for confirmation, but despite an effective sequencing, the isolation of the virus was not so obvious. This lack of consistence between cell culture and PCR analysis triggered some interrogations, notably regarding the real status of the farm and the necessary following of facilities.
- 1 outbreak in Slovakia



Final remarks

- Very recent finding and final consequences are unknown.
- The Danish Government will apriory not sustain an eradication program financially (except for som help to organize from the CA within the current frame).
- If epidemiological situation agravate it will be very difficult for the industry to control and they might start from scratch again as was done in 1965 wen the fish farmers started the VHS control program. Hopefully it will not take that long!