



**Ministry of Food, Agriculture
and Fisheries of Denmark**

Danish Veterinary and
Food Administration

Infectious haematopoietic necrosis (IHN) in Denmark

PAFF

17 June 2021

Torben Grubbe

Situation prior the first outbreak

- ❑ IHN has never previously been reported in Denmark
- ❑ The whole territory of Denmark was recognised by the EU as being free of IHN, Annex XIII of Regulation (EU) 2021/620.
- ❑ Denmark has for decades had a surveillance programme for IHN, which include testing of 30 fish from each fish farm with susceptible species at least once a year (brood stock farms are tested at least two times every year). The test use in the surveillance programme is cultivation in cell culture followed by observation of cytopathic effect.

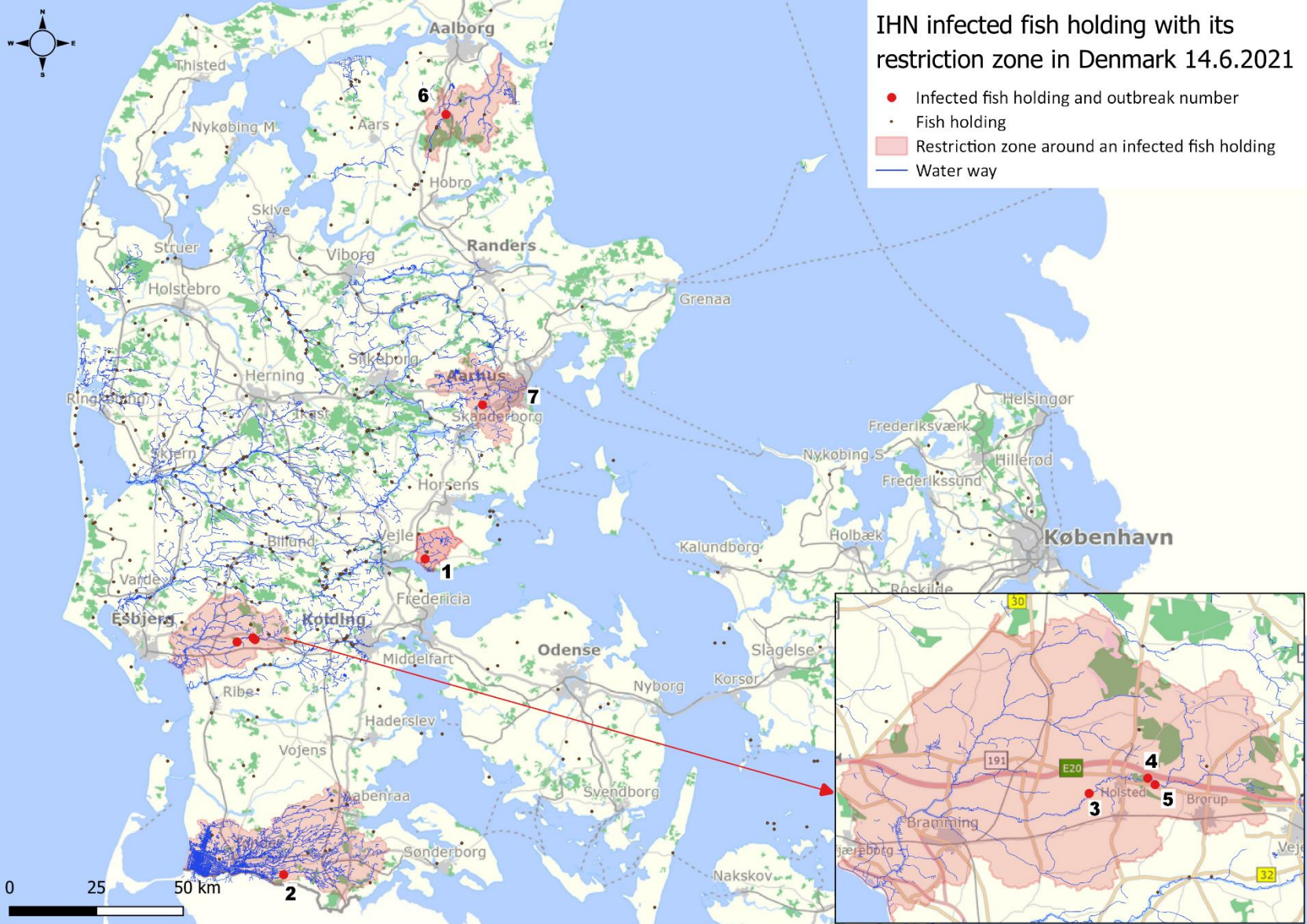
Number of samples tested for IHN pr year by DTU-Aqua (each sample tested is a pooled sample of up to 10 fish per sample)

2018	2019	2020
619	586	537

The 7 outbreaks of IHN

Outbreak no.	Date of confirmation	Epidemiological comments
1	18/05/2021	Rodhen Å. Received fish from outbreak no 2.
2	25/05/2021	Vidå. Received fish from outbreak no 3.
3	29/05/2021	Sneum Å. River contact of outbreak 4 & 5 and trade to outbreak 5
4	02/06/2021	Sneum Å. River contact of 3 & 5
5	03/06/2021	Sneum Å. River contact of 4 & 5 and trade from outbreak 3
6	03/06/2021	Lindborg Å. Received fish from outbreak no 3.
7	03/06/2021	Århus Å. Put & Take Lake, which received fish from outbreak 6

Map over the 7 outbreaks of IHN



Control measures in the event of suspicion of IHN

Establishment is immediately put under official restrictions in accordance with article 55 (or 56 if it is a suspicion due to contact or hydrodynamic conditions) of Regulation (EU) 2020/689.

Establishment change IHN disease status to "under suspicion" in the Central Husbandry Register (CHR): <https://chr.fvst.dk/chri/faces/frontpage>

Initiate epidemiological investigation.

Establishment visited by DVFA for epidemiological investigation and take samples to rule out or confirm the presence of IHN.

Control measures when outbreak is confirmed

Applied:

- ❖ Establishment is immediately put under official restrictions in accordance with article 58 of Regulation (EU) 2020/689.
- ❖ Establishment change IHN disease status to "infected" in the Central Husbandry Register.
- ❖ Establish restriction zone (= water catchment area)
- ❖ Complete the epidemiological investigation (incl. *Tracing contact*).

To be applied:

- ❖ Removal of infected animal in accordance with article 62
- ❖ Cleaning and disinfection in accordance with article 63.
- ❖ Fallowing for 6 weeks in accordance with article 64.

Information to European Commission and Member States

All outbreaks have been reported in ADIS

Information letter to European Commission and Member States

Letters to Members States+ (Finland, the Netherlands, Italy, Luxembourg, Germany, Austria, Belgium, Hungary and Switzerland), which according to TRACES had received fish from confirmed outbreaks.



Suspension of IHN free status of Denmark

On 2 June 2021, the Danish Veterinary and Food Administration suspended the IHN free status of Denmark in accordance with article 82(3) of Regulation (EU) 2020/689.

The free status was suspended due to the situation with more than 20 contact suspicions being investigated.

The suspension was instated for a period of 3 weeks - until 23 June 2021.



Put and take lakes

- ❑ **Outbreak 1-6 has delivered fish to 70+ put and take lakes.**
- ❑ **Put and take lakes supplied from infected fish farm:**
 - ❖ **Official restrictions in accordance with article 55 and 56 of regulation (EU) 2020/689.**
 - ❖ **DFVA visit, epidemiological investigation and sample collection**
- ❑ **Put and take lakes infected with IHN:**
 - ❖ **Establish restriction zone if connected to a water catchment area by overflow or proximity.**

Current situation (as of 16 June 2021)

Fish farms:

- **6 outbreaks (see slide 3)**
- **34 suspicions, of which 33 are negative in PCR and/or cell culture**
 - 19 suspicions due to movement of fish to or from infected establishments
 - 1 suspicion in the same water catchment area as an infected establishment
 - 6 suspicions due to same water catchment area as a movement contact to an infected establishment
 - 6 suspicions due to movements of fish to other Member State
 - 2 clinical suspicions

Put and take lakes:

- **1 outbreak (see slide 3)**
- **69 "under suspicion"**

Outbreak no 1 Årup Mølle Dambrug (CHR 103740)

Suspicion date: 17/05/2021, due to contact to infected establishment in Germany

Confirmed date: 18/05/2021, based on cell culture and PCR

* Source of infection: assumed to be outbreak no 2

* Latest negative surveillance sample: 23/11/2020

Received fish from:

- CHR 103601 (in February, March and April), Neg CC and PCR
- CHR 103778 (06/05 2021), Neg CC and PCR
- CHR 103648 (30/03 2021), Neg CC and PCR
- CHR 80513 (in February, March and April) = Outbreak no 2
- CHR 103711 (in January and February), Neg in CC and PCR
- CHR 103627 (in 23/3), Neg in CC and PCR

In 2021, fish shipped to:

- 2 put and take lakes in DK
- The following Member States: Finland, Germany, Austria, The Netherlands, Luxembourg, Italy



Outbreak no 2 Rens Mølle Dambrug (CHR 80513)

Suspicion date: 18/05/2021, due to contact to outbreak no 1

Confirmed date: 25/05/2021, based on PCR and later cell culture

* Source of infection: assumed to be outbreak no 3

* Latest negative surveillance sample: 26/04/2021

Received fish from:

- CHR 66601, Neg CC and PCR
- CHR 103932 = Outbreak no 3

Send fish to:

- CHR 103740 = Outbreak no 1
- 5 put and take lakes in DK
- The following Member States: Finland, Germany and Austria

In same water catchment area:

- CHR 103468, Neg CC and PCR

Outbreak no 3 Gørklint Dambrug (CHR 103932)

Suspicion date: 27/05/2021, due to contact to establishment in Germany

Confirmed date: 29/05/2021, based on cell culture and PCR

* Source of infection: ?

* Latest negative surveillance sample: 22/03/2021

Received fish from:

- CHR 70240 (in 15/2 og 10/3), Neg PCR

Send fish to:

- CHR 80513 (in January, February, April and May) = Outbreak no 2
- CHR 107236 (in February, March and May) = Outbreak no 6
- CHR103594 = Outbreak 5
- 3 put and take lakes in Denmark
- The following Member States: Germany, Belgium, the Netherlands

In same water catchment area:

- CHR 54147 = Outbreak 4
- CHR103594 = Outbreak 5



Outbreak no 4 Hulkær Dambrug (CHR 54147)

Suspicion date: 30/05/2021, due to same water catchment area as outbreak no 3

Confirmed date: 02/06/2021, based on PCR

* Source of infection: assumed to be stream water

* Latest negative surveillance sample: 05/05/2020

Received fish from:

- none in 2021

Send fish to:

- 1 put and take lake in Denmark
- The following Member States: Germany, the Netherlands, Austria and Hungary

In same water catchment area:

- CHR103932 = Outbreak 3
- CHR103594 = Outbreak 5



Outbreak no 5 Præstkær Dambrug (CHR 103594)

Suspicion date: 30/05/2021, due to same water catchment area as outbreak no 3

Confirmed date: 03/06/2021, based on PCR

* Source of infection: assumed to be fish from outbreak 3 and/or stream water

* Latest negative surveillance sample: 07/04/2021

Received fish from:

- CHR103588, Neg PCR
- CHR37922, Neg PCR
- CHR103778, Neg CC and PCR
- CHR103689, Neg PCR
- CHR103532, Neg PCR
- CHR103513, Neg PCR
- CHR126457, Neg PCR
- CHR103601, Neg PCR
- CHR78845, Neg PCR

Send fish to:

- CHR103588, Neg PCR
- 40+ put and take lakes in Denmark
- The following Member States: Germany, the Netherlands, Austria and Switzerland

In same water catchment area:

- CHR103932 = Outbreak 3
- CHR54147 = Outbreak 5



Outbreak no 6 Buderupholm Dambrug (CHR 107236)

Suspicion date: 01/06/2021, due to contact to outbreak no 3

Confirmed date: 03/06/2021, based on PCR

* Source of infection: assumed to be outbreak no 3

* Latest negative surveillance sample: 06/05/2020

Received fish from:

- CHR 103932 = Outbreak no 3
- CHR 103767, Neg PCR
- CHR 103659, Neg PCR
- CHR 103839, Neg PCR

Send fish to:

- 25+ put and take lakes in Denmark
- The following Member States: the Netherlands



The path forward

Receive and forward letter from EURL regarding issues with the PCR test

Approve at least one disease control aquatic food establishments (Art. 179 of AHL)

Lifting restrictions on test negative suspicions (based on checklist)

Extra testing of all 15 registered brood stock farms, which include the following requirements:

- **Water supply is pathogen free (approved by DVFA)**
- **No introduction of fish, eggs or semen**
- **2 annual surveillance samples**

The 70+ Put & Take lakes.

- **Reevaluate whether contact has been epidemiological relevant**
- **Testing the relevant P&T**
- **What to do with infected P&T? (How to empty? What to do with water? Etc.)**

Infected establishments and infected water catchment

