

Outbreak of IHN in Finland 2017-2018

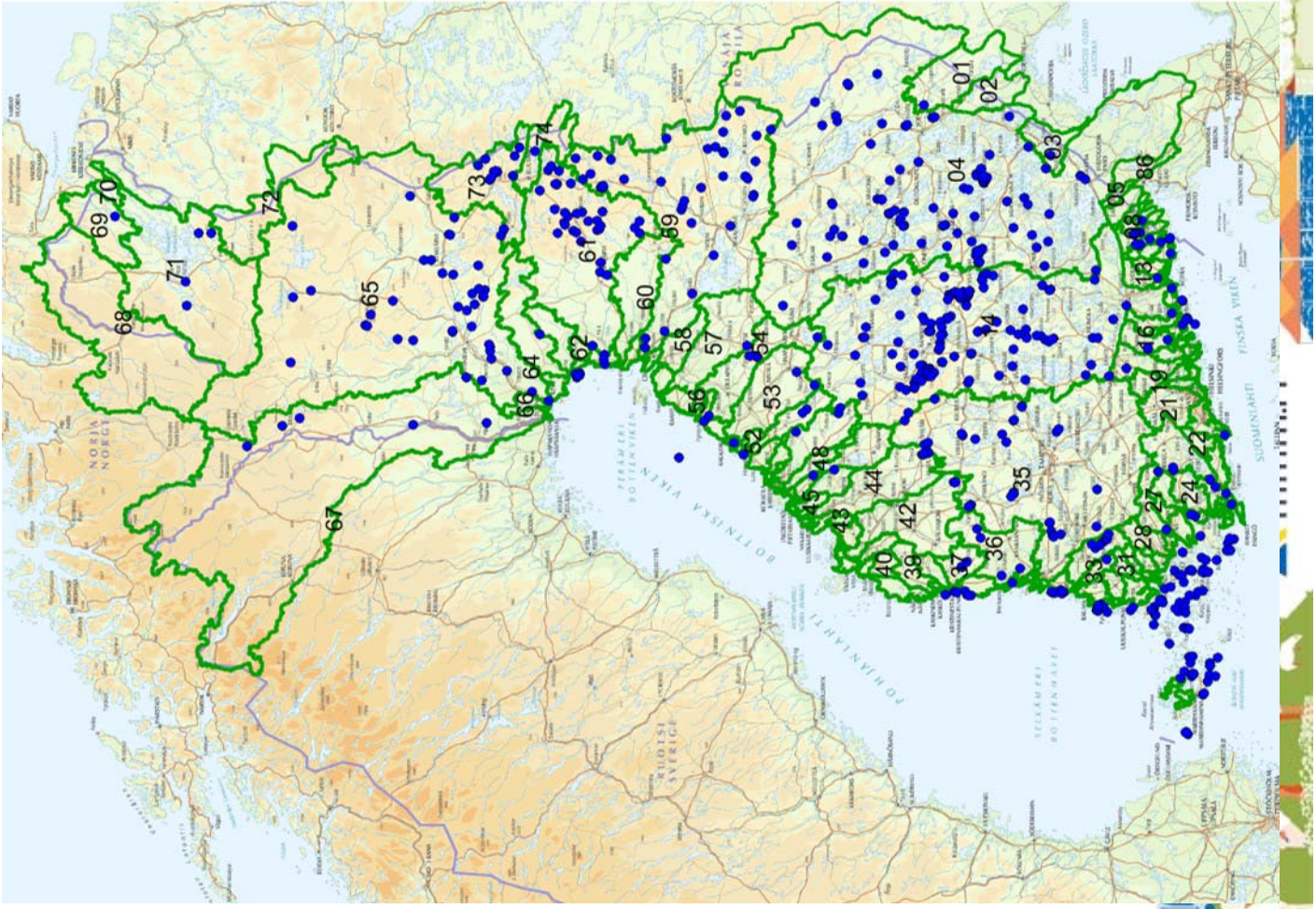
*Presentation in PAFF committee
on 18 January 2018*



Structure of the aquaculture

- Mainly rainbow trout (95%)
- Second species whitefish (coregonid)
- around 14 million kg produced annually for food
- Around 20 other species, most for restocking purposes
- Production in landbased farms, netcages, natural feed ponds and small-scale hatcheries





IHN situation until 2017

- No outbreaks of IHN before 2017
- IHN official free status, whole country



IHN testing programme until 2017

Farm type	Broodstock and juvenile producers	fish for food, risk coastal areas	fish for food, low risk coastal areas	fish for food, low risk continental areas	
Inspections	annually	annually	biannually	every four year	
Laboratory tests	biannually	biannually	biannually	in case of suspicion	



IHN tests 2013-2016

Year	Continental area farms/fish	Coastal area farms/fish	Total farms/fish
2013	55/3740	46/1870	101/5610
2014	54/2480	41/1347	95/3827
2015	62/2570	45/1382	107/3952
2016	53/2753	38/1164	91/3917

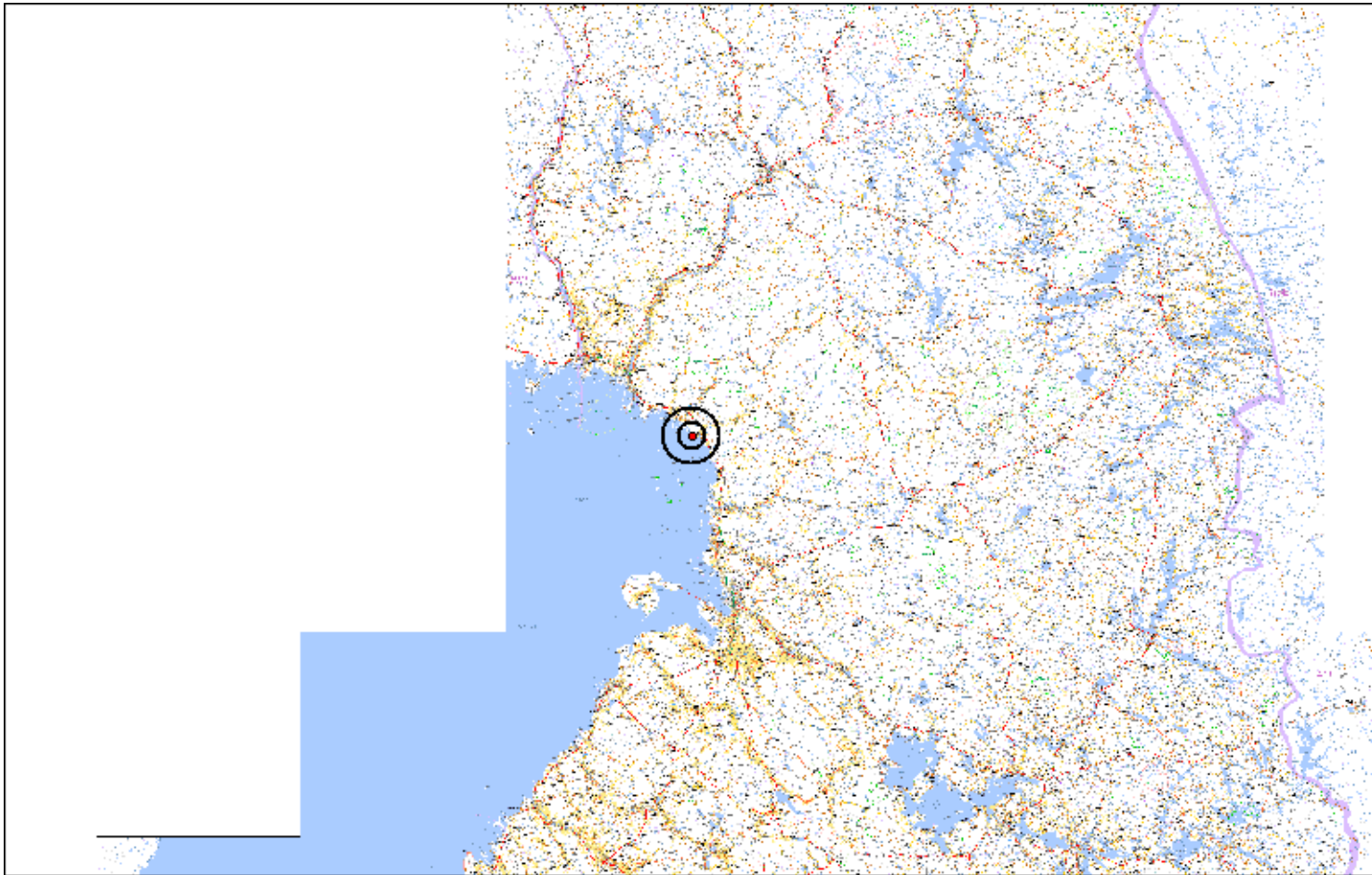


First case of IHN

- 30.11.2017 first case confirmed, a netcage farm producing rainbow trout for food in the Gulf of Bothnia
- case found in routine screening by virus isolation, later also PCR
- virus different from other EU isolates, closest relative a virus isolated in Russia in 2001



Containment area



Second case of IHN

- 8.12.2017 neighbouring farm 200 m away, also a netcage farm producing rainbow trout for food
- located within the same containment area



Epidemiological investigation

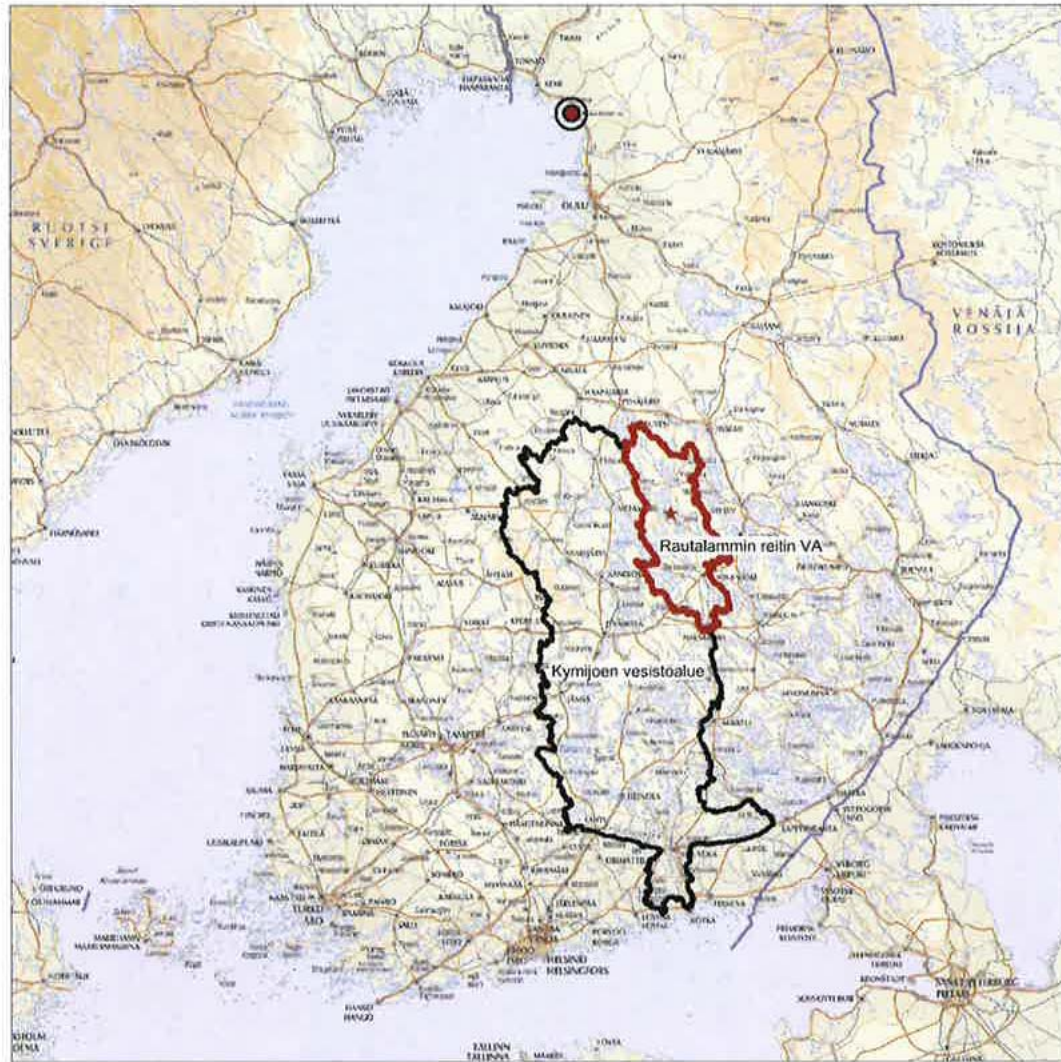
- All farms having delivered live fish to the positive farms
- One was found positive (case 2017/3), all other negative



Third case of IHN

- 11.12.2017 State-owned broodstock farm located in continental Finland, River Kymijoki WCA
- Had not received live fish or eggs for past two years
- All contacts to which live fish or eggs had been delivered, as well as other farms in the same WCA were tested





Fourth case of IHN

- 29.12.2017 a put and take fishing pond located within one km of case 2017/3
- It had received rainbow trout from case 2017/3
- Other infection routes between cases 2017/3 and 2017/4 also possible, due to the short distance between them



Reduction of the second containment area, 29.12.2017



Reasons for the reduction

- other farms in the area had been found negative
- the emptying of case 2017/3 started on 21.12.2017, beginning with the infected batches
- no wild susceptible species present, vector species local



Reasons for the reduction (2)

Hydrological conditions

- River Kymijoki WCA is a huge area consisting of a network of lakes where the volumetric flow rate is very low
- The estimated time for a particle to travel from the infected farms to the next farm with susceptible species downstream is between 15-27 months, and IHNV survives for max 7 weeks in lake water





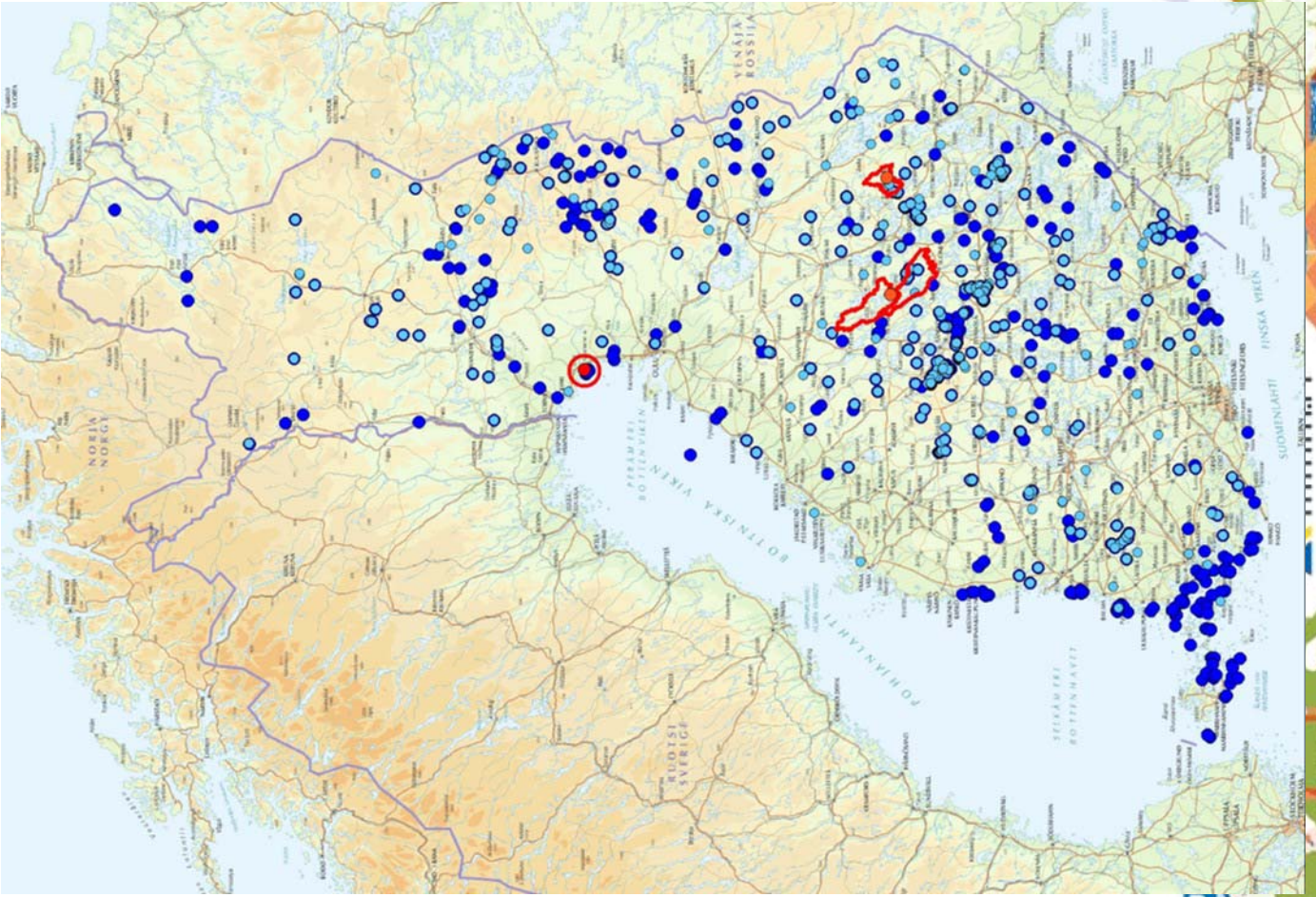
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Fifth case of IHN

- 5.1.2018 A private put and take fishing pond having received 30 kg rainbow trout from case 2017/3 in river Vuoksi WCA
- Pond already emptied
- Diagnosis was made by PCR from brain and kidney tissues from eviscerated fish in the freezer







Outcome of epidemiological investigation (preliminary)

- Index case either case 2017/3 or case 2017/4
- No indication on how the virus was introduced
- Estimated time of introduction late May 2017
- So far 25 contact farms found negative



Movement of susceptible species to other MSs in 2017

WCA of origin	Date	MS of destination	Species
River Oulujoki	19/06/17	Sweden	rainbow trout
River Oulujoki	27/06/17	Sweden	rainbow trout



Movement of other species to other MSs in 2017

- whitefish, arctic char, brown trout, grayling from one state-owned farm in River Iijoki WCA, latest 16/06/2017
- perch from state-owned research facility on 12/05/2017
- All movements suspended on 13.12.2017 and remain suspended



Eradication measures

Aim

- to eradicate IHN as quickly as possible



Eradication measures

Rationale

- IHN is a coldwater rainbow trout disease with the potential for high morbidity and high mortality
- Due to hydrological conditions and the structure of the fish farming industry it is difficult to protect individual farms from diseases occurring in Finland



Eradication measures

Rationale (2)

- Netcage production for food on the coast is dependent on receiving juveniles from continental areas and in particular River Kymijoki area
- IHN could harm export of juveniles and eviscerated fish to third countries
- IHN could threaten endangered stocks of wild salmon



Measures taken

- Stamping out ordered on all positive cases, however case 2018/1 already empty
- Emptying of case 2017/3 began on 21.12.2017, ongoing, due to the size of the farm
- Emptying of cases 2017/1 and 2017/2 will begin when the ice is thick enough
- Case 2017/4 emptied 5.1.2018





Planned increased testing

- Inspection and testing twice a year for a period of two years:
- Farms located on the coast at a distance of less than 100 km from the infected site
- Farms located at a distance of less than 100 km from the infected site in the same WCA, unless located upstream behind a barrier preventing the migration of wild fish
- Other farms considered at risk based on epidemiological investigations



Thank you for your attention

