



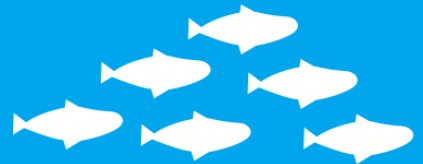
Veterinærinstituttet  
*Norwegian Veterinary Institute*

# Overview of the disease situation for farmed fish in Norway

24th Annual Workshop of the National Reference  
Laboratories for Fish Diseases.

3<sup>rd</sup>-4<sup>th</sup> November 2020

Ingunn Sommerset



## Fish health report 2019

Status notifiable and other diseases per October 2020

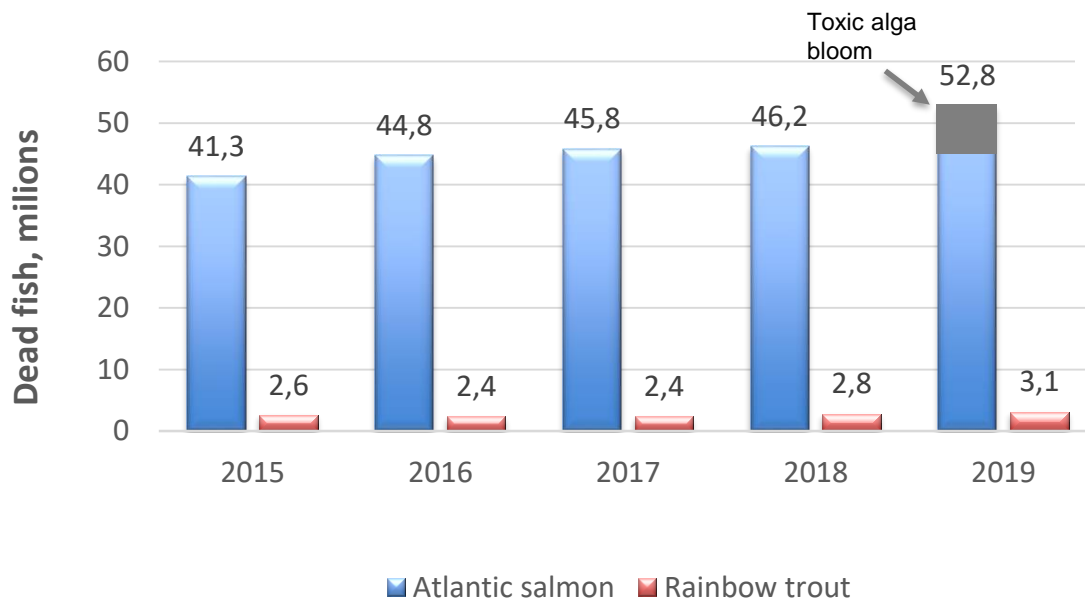
Emerging diseases/new trends 2020

## Fiskehelse rapporten 2019



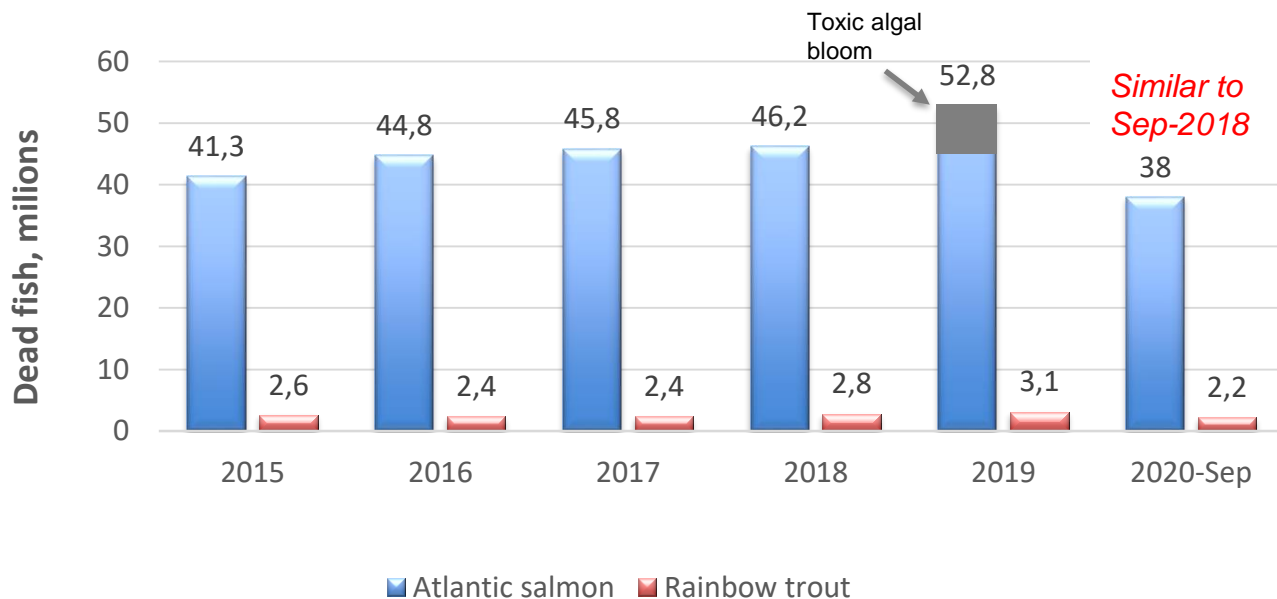
Festeorgan til *Gyrodactylus salaris* forstørret 2600 ganger. Foto: Jannicke Wiik-Nielsen, Veterinærinstituttet.

## Annual mortality of farmed salmon and rainbow trout (seawater sites)



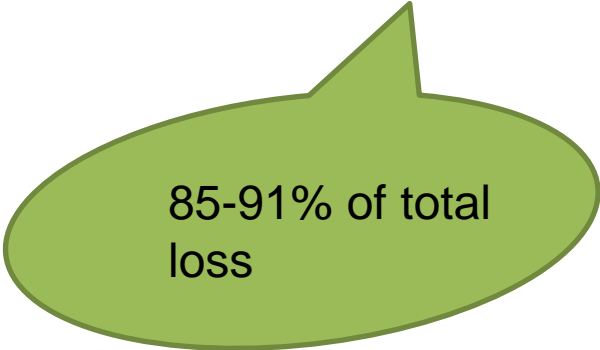
Source: Directorate of Fisheries

## Annual mortality of farmed salmon and rainbow trout (sea water sites)




## Causes of death - no official data available

Total loss = **Dead** + Downgraded + Escapes + Other



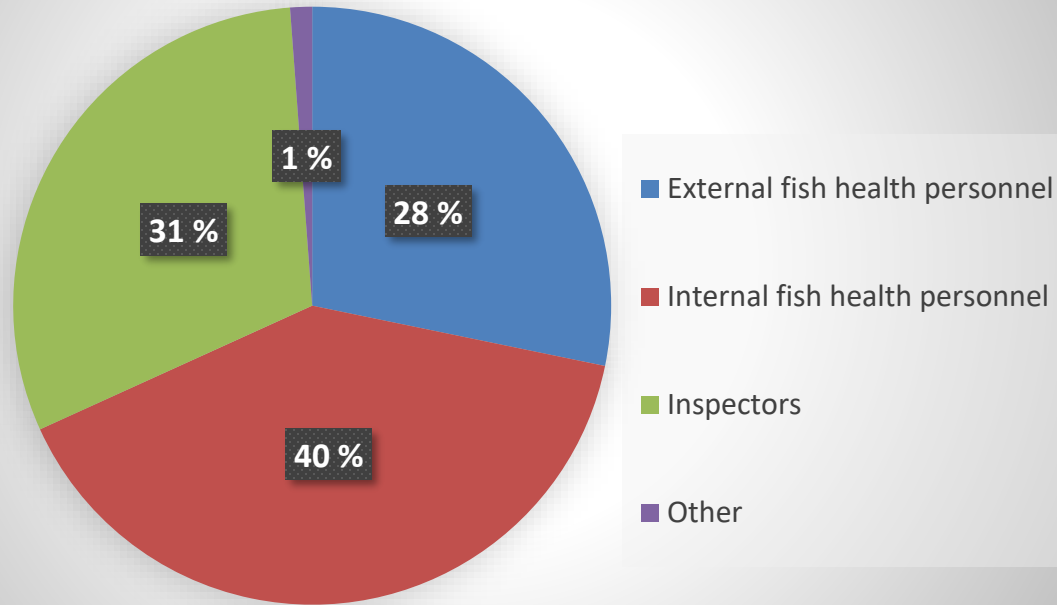
85-91% of total  
loss



2 - 6 % of  
total loss

# Fish health survey 2019

Distribution of responders 2019 (N= 84)



# Main problems - salmon freshwater sites

1. Non-infectious diseases related to water quality or smoltification
2. Fin erosion, runted fish, shortened opercula
3. Infectious pancreatic necrosis (IPN), yersiniosis



Foto:llaks.no

# Main problems - salmon seawater sites

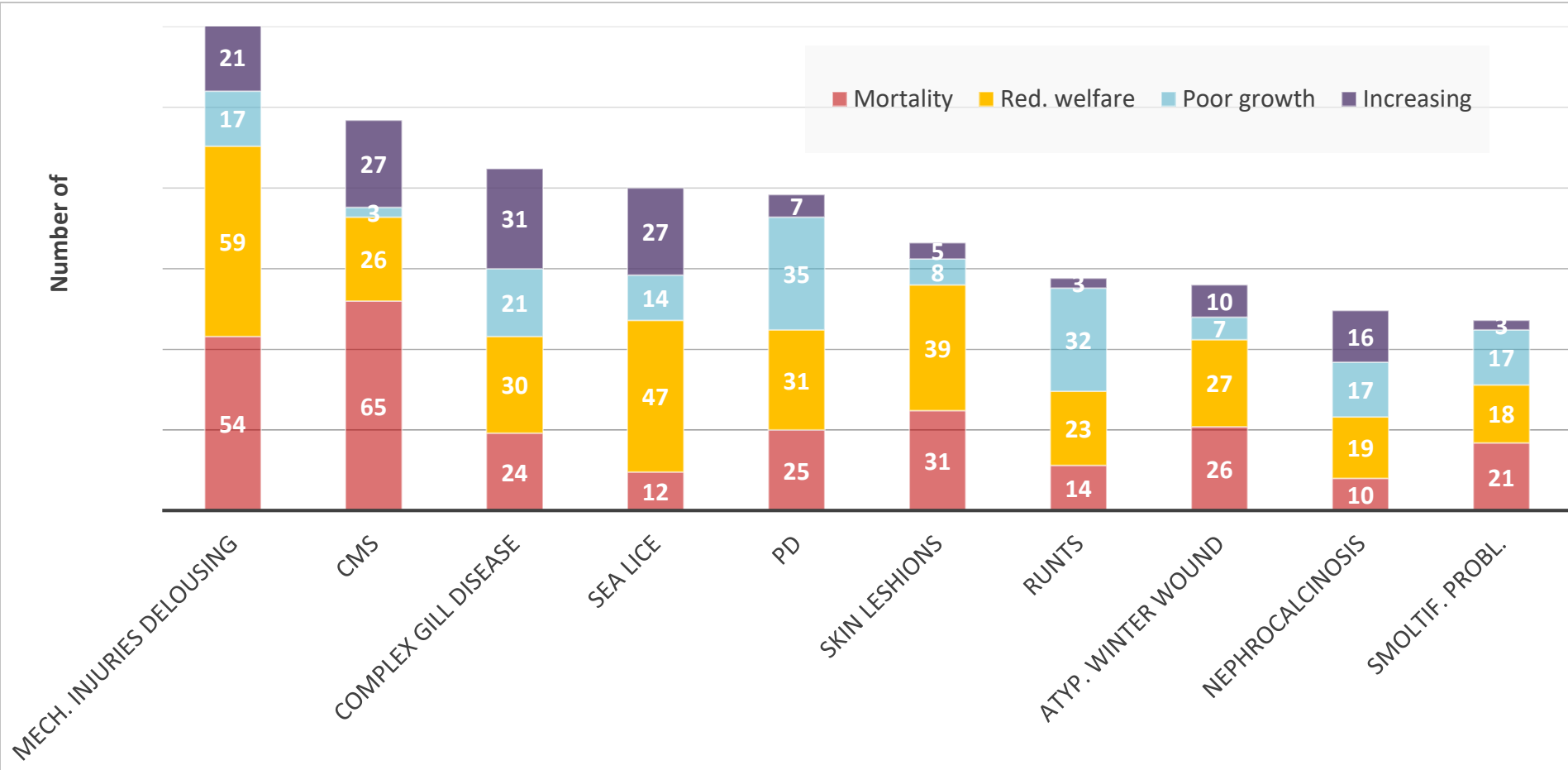
1. Mechanical injuries associated with delousing
2. Viral diseases: CMS, HSMI, PD
3. Complex/multifactorial gill disease
4. Skin lesions
5. Smolt related issues



Foto: Veterinærinstituttet



# Top 10 problems salmon ongrowing sites 2019





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# Number of new diagnoses/positive sites 2019 - NVI laboratory



## Farmed salmonids – list 2 and 3 diseases

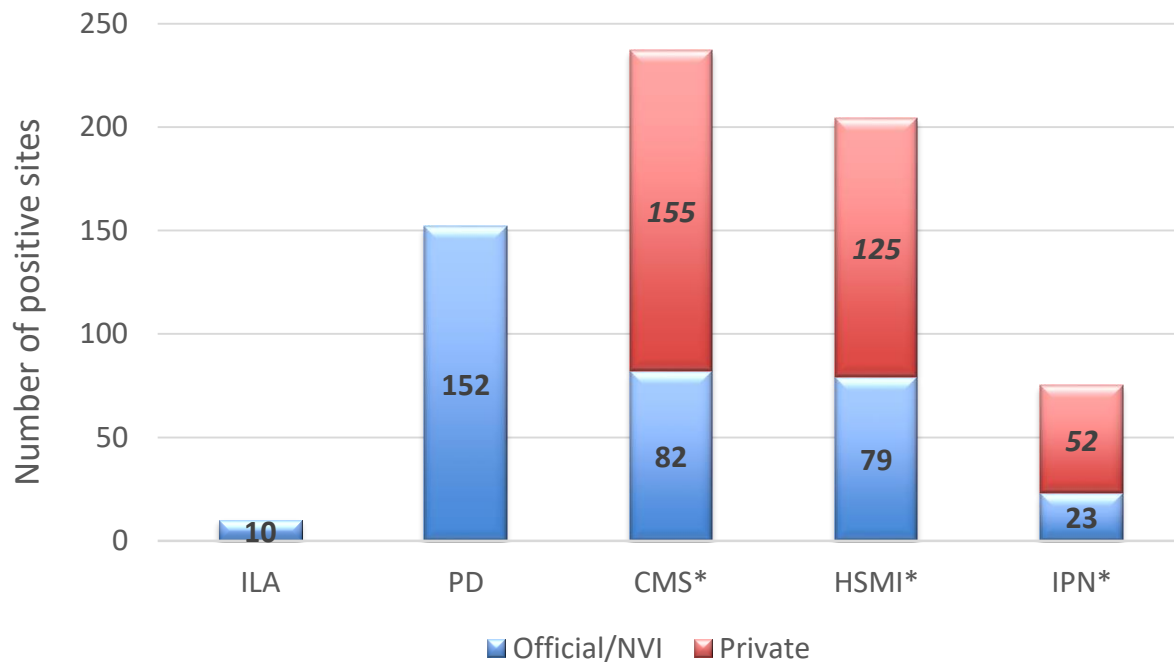
Disease	List	2013	2014	2015	2016	2017	2018	2019
ISA	2	10	10	15	12	14	13	10
VHS	2	0	0	0	0	0	0	0
PD	3	100	142	137	138	176	163	152
Furunculosis	3	0	1	0	0	0	0	0
BKD	3	1	0	0	1	1	0	1
<i>F. psychrophilum</i> (RBT)	3	3	2	3	4	1	4	4

## Farmed marine species and wild salmon (list 3 diseases)

Disease	2013	2014	2015	2016	2017	2018	2019
Francisellosis (cod)	1	1	0	0	0	0	0
VNN, nodavirus	1	0	0	0	0	0	0
Furunculosis (Lumpsucker)	0	0	1	4	0	0	0
Wild salmonids (fresh water)	-----						
Gyrodactylus salaris	1	1	0	0	0	0	1
Furunculosis	0	0	2	1	2	0	2



## Important viral diseases in salmon farms 2019



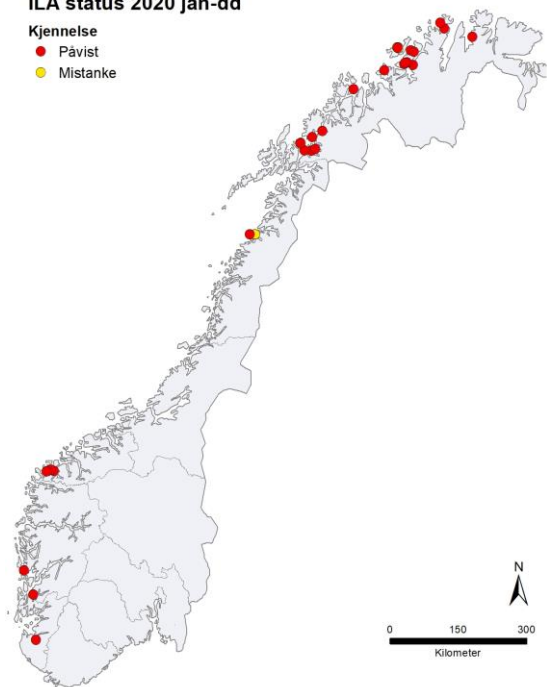
\*Private labs report their numbers anonymously to the NVI, thus the same farm can be counted more than once – thus inaccurate total number of positive sites

# ISA affected sites per 29.10.2020

ILA status 2020 jan-dd

Kjennelse

- Påvist
- Mistanke

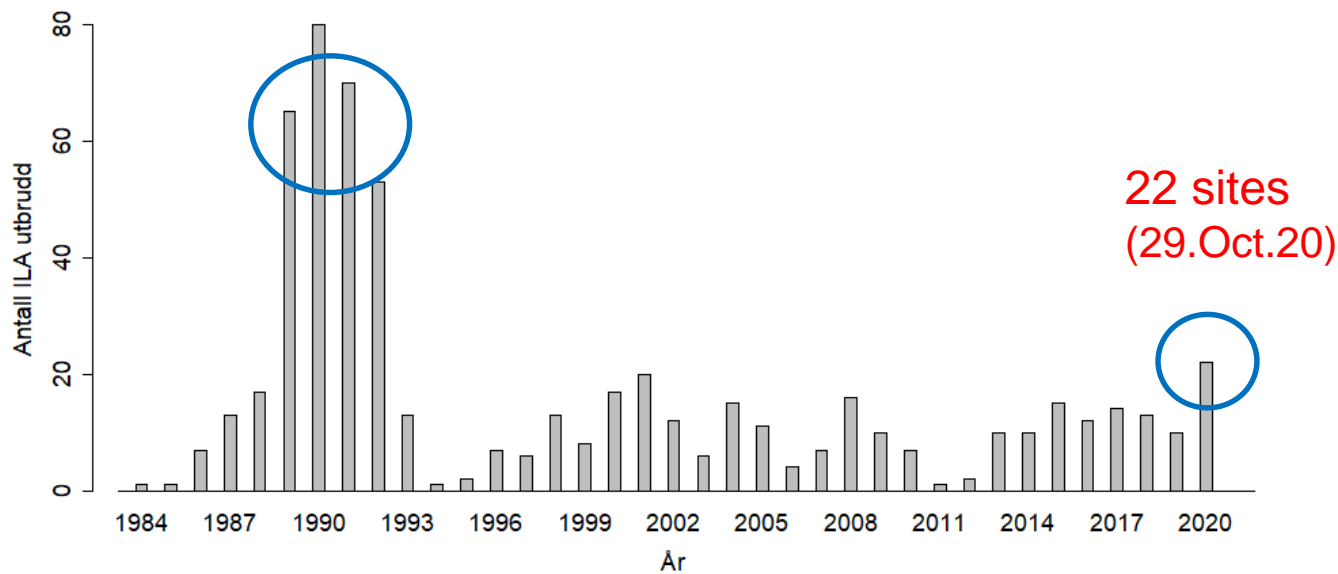


22 confirmed ISA outbreaks

5 suspected, not confirmed sites

- Detection of virulent ISAV (ILAV HPRΔ )

# Annual confirmed ISA outbreaks





# ALARMING

Urovekkende ILA-situasjon i landet nå



Deler Veterinærinstituttet si ILA-bekymring



Ber oppdretterne være på vakt: Ekspert frykter nytt skrekksenario med ILA

Veterinærinstituttet frykter at laksesykdommen ILA kan være en større trussel enn man først har trodd.

13. august 2020 14:20 OPPDATERT 13. august 2020 14:37



Mutering av virus kan ligge bak mange av ILA-tilfellene i år

– En del av epidemien vi får nå kan skyldes HPRO, sier forskningsdirektor i Patogen. Mattilsynet sier fokuset på viruset blir viktig fremover.






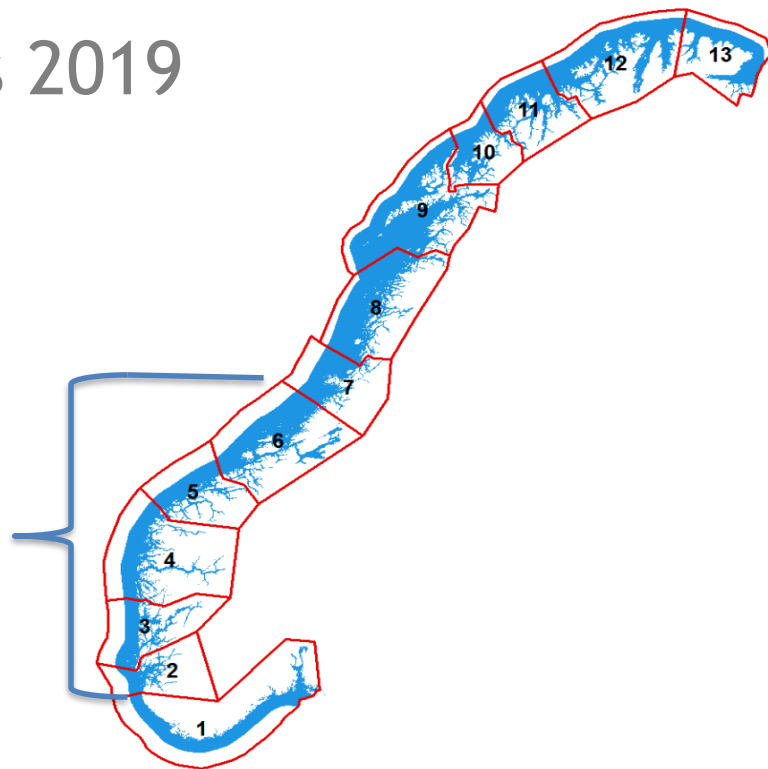


# Complicated ISA situation

- Several isolated outbreaks over a large area
- Identical/closely related virus indicates in some cases a common origin
- Probably some horizontal transmission involved (but not the main picture)
- Possible connection to fresh water sites: ISAV HPR0 closely related to ISAV HPRΔ at affected sea water site

# PD situation per 30.09 2020 vs 2019

	2019 (Jan-Sep) Susp. sites	2020 (Jan-Sep) Susp. sites
Total	<b>120</b>	<b>134</b>
PD- zone	PO2	0 
	PO3	38 
	PO4	53 
	PO5	11
	PO6	36
	PO7	9*
	PO1+ PO8-13	0



# Ornamental fish - koi

- 2019: Koi herpes virus (list 2) detected for the first time in Norway
- One private pond in Western Norway
- Confirmed by EURL-DTU
- 2020: Two separate cases of carp edema virus (one from 2019)
- Confirmed by EURL-DTU





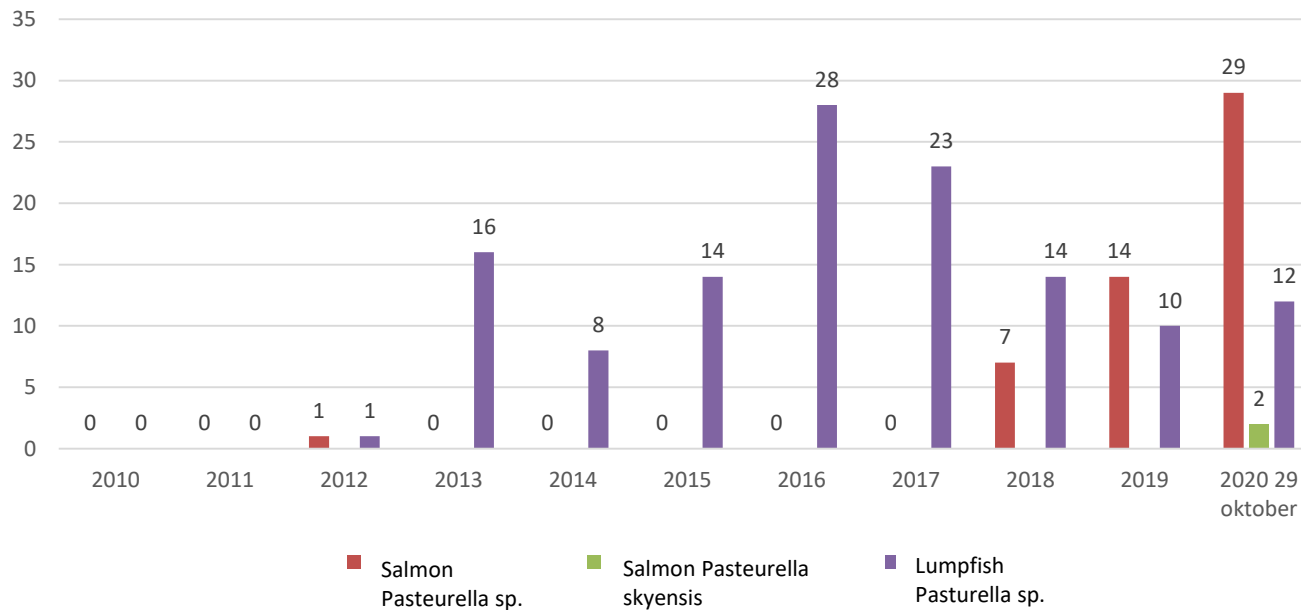
## Bacterial diseases 2019:

- Overall good situation
- Few sites with notifiable diseases:
  - BKD (1) og systemic *F. psychrophilum* RBT (4)
- Low level of antibiotic use and antibiotic resistance
- High vaccination coverage
  
- Of concern:
  - **Pasteurellosis in farmed salmon**
  - Skin lesions/wounds



Foto. Hanne Nilsen

## Number of sites diagnosed with Pasteurellosis





## Preliminary summary of disease situation in farmed salmon Norway 2020

- Accumulated mortality jan-sep 2020 similar to jan-sep 2018
- Alarming number of ISA outbreaks (Northern Norway)
- PD situation - no major change
- Alarming number of Pasteurellosis outbreaks AND first detection of *P. skyensis* (Western Norway)

*Faglig ambisiøs, fremtidsrettet og  
samspillende - for Én helse!*



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