

Seminar Chile -Norway AquaNor 2019

Status on Fish Health status in Norway

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Data

Notifiable diseases:

Data from NVI

Non-notifiable diseases:

Data from NVI

Data from private laboratories

Data from a questionnaire

Official data



Water quality and fish health

Losses in 2018: 53 mill salmon

87,2% dead fish

6,6 sorted out

6,0% various

0,02% escapes





Salmon lice

....still the greatest challenge to fish health

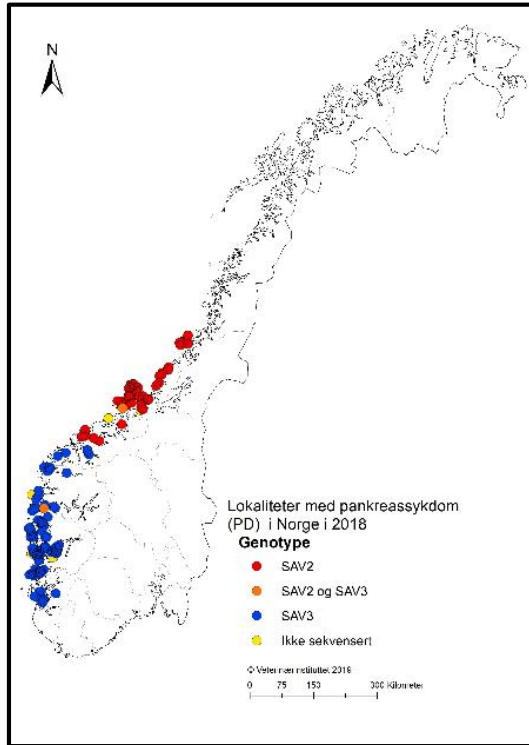
Resistance and treatments

Region	Impact (1-5)
Total	3,8
South-West	3,1
North-west	3,8
Middle	4
North	3,8

Impact from mechanical injuries after delousing



Pancreas disease PD

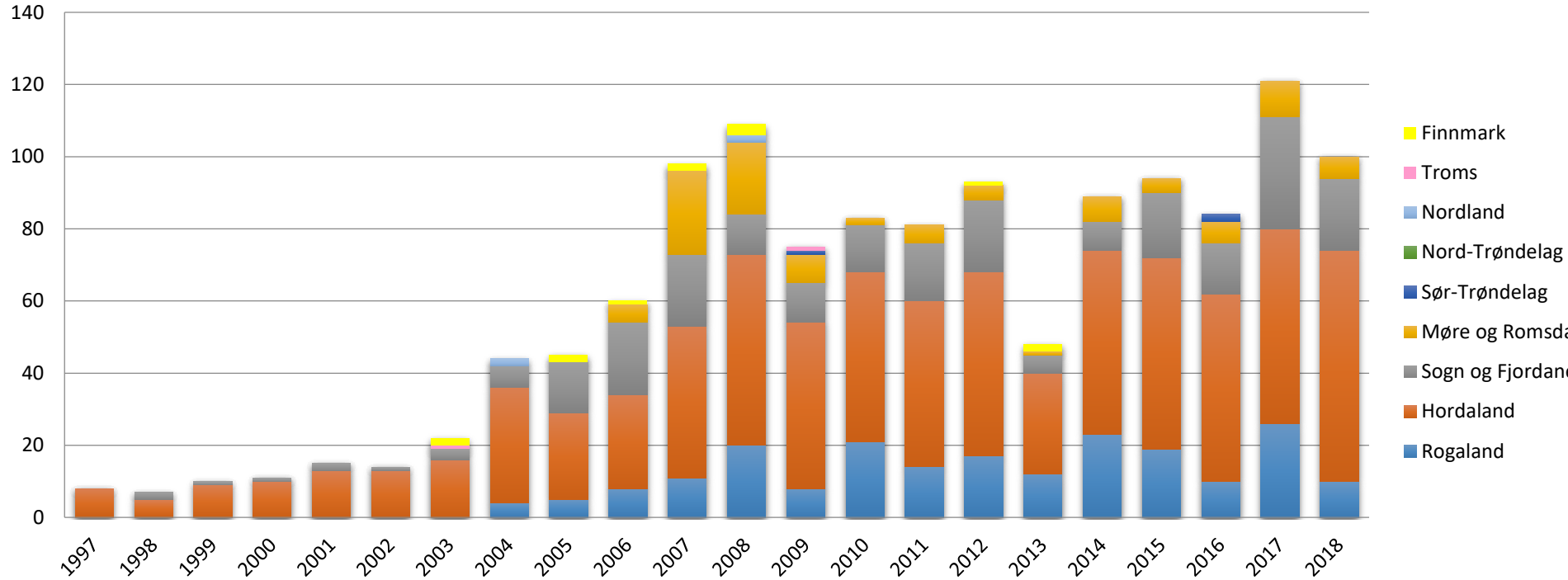


2018	163
2017	176
2016	138
2015	137
2014	142
2013	99
2012	137

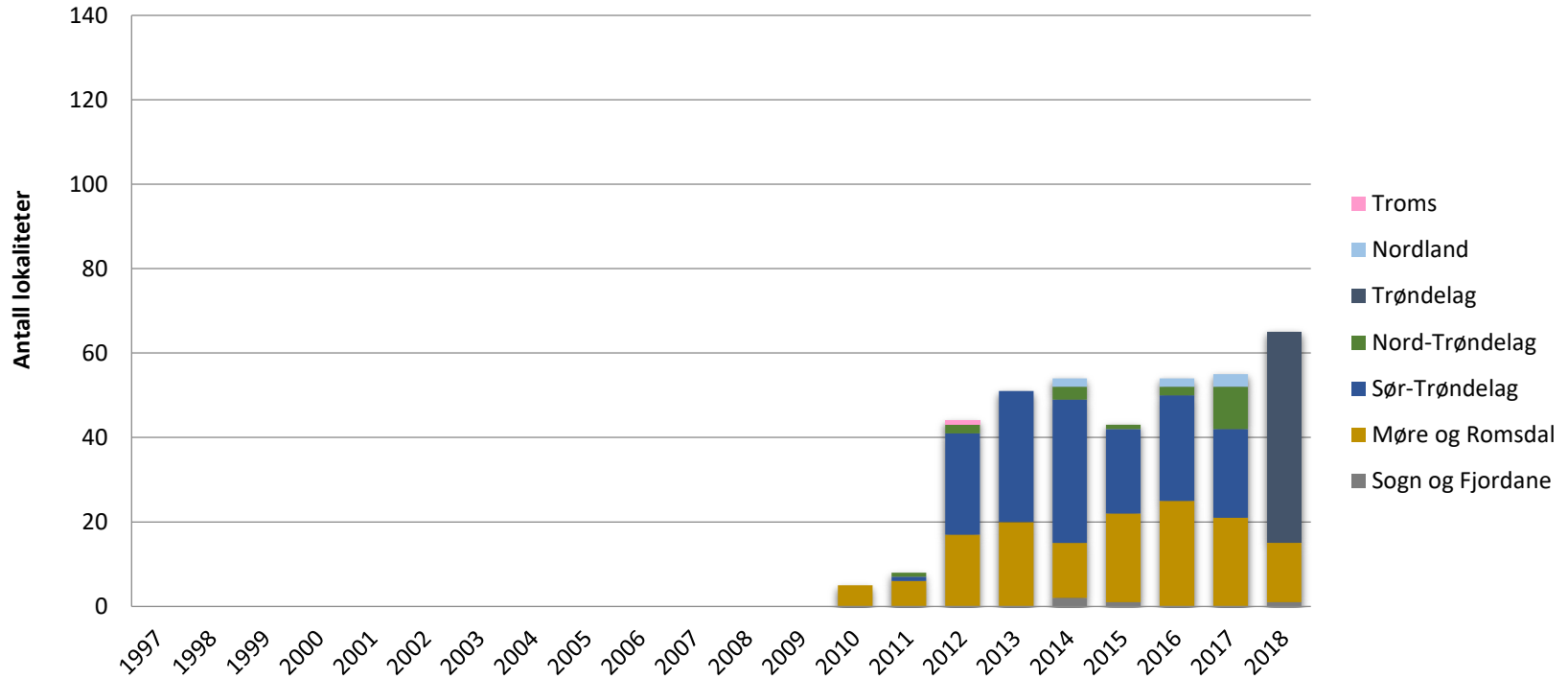
Region	Impact (1-5)
South-West	4,4
North-Weat	4,1
Middle	4,1
North	1,5

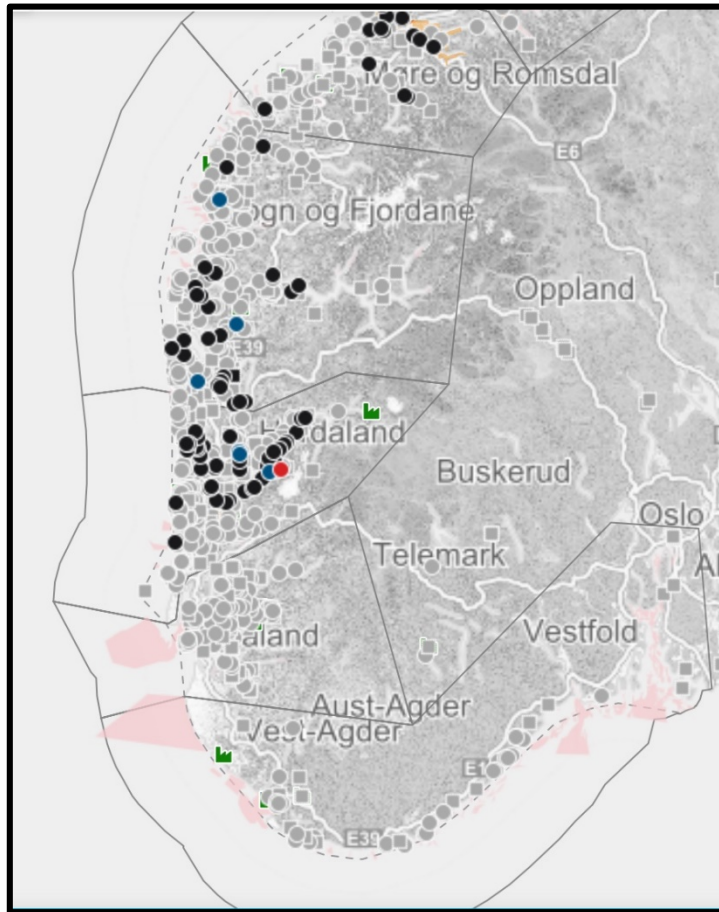


SAV3-cases 1997-2018

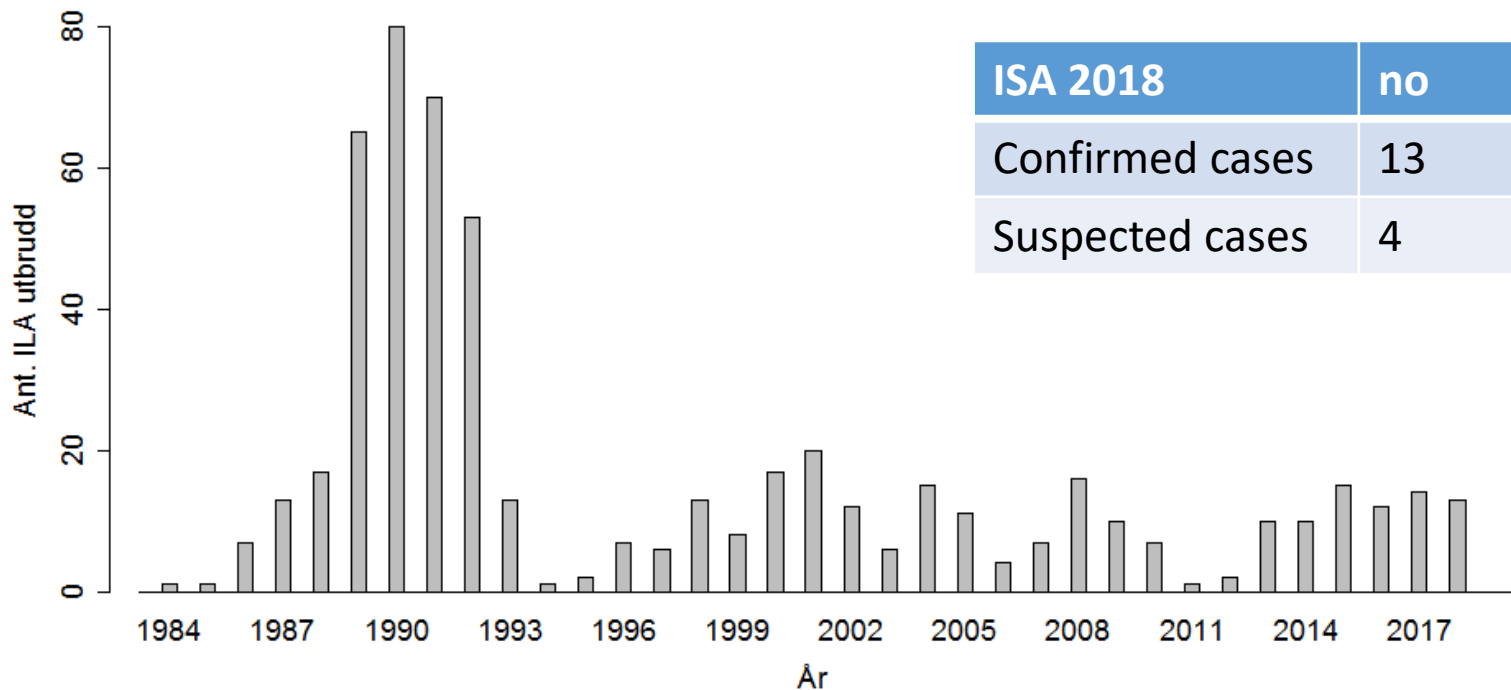


SAV2-cases 1997-2018



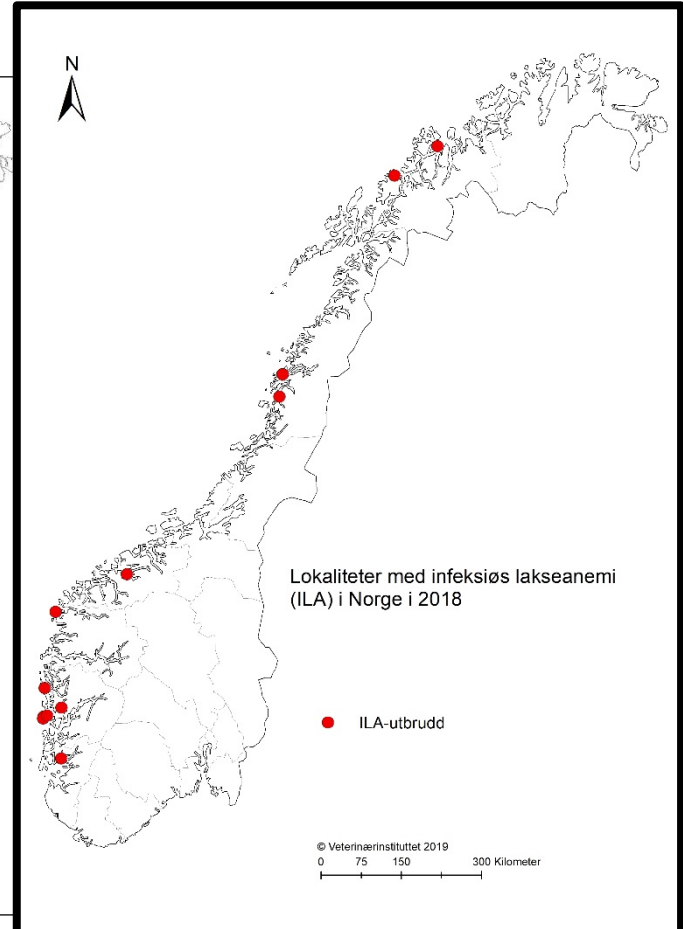
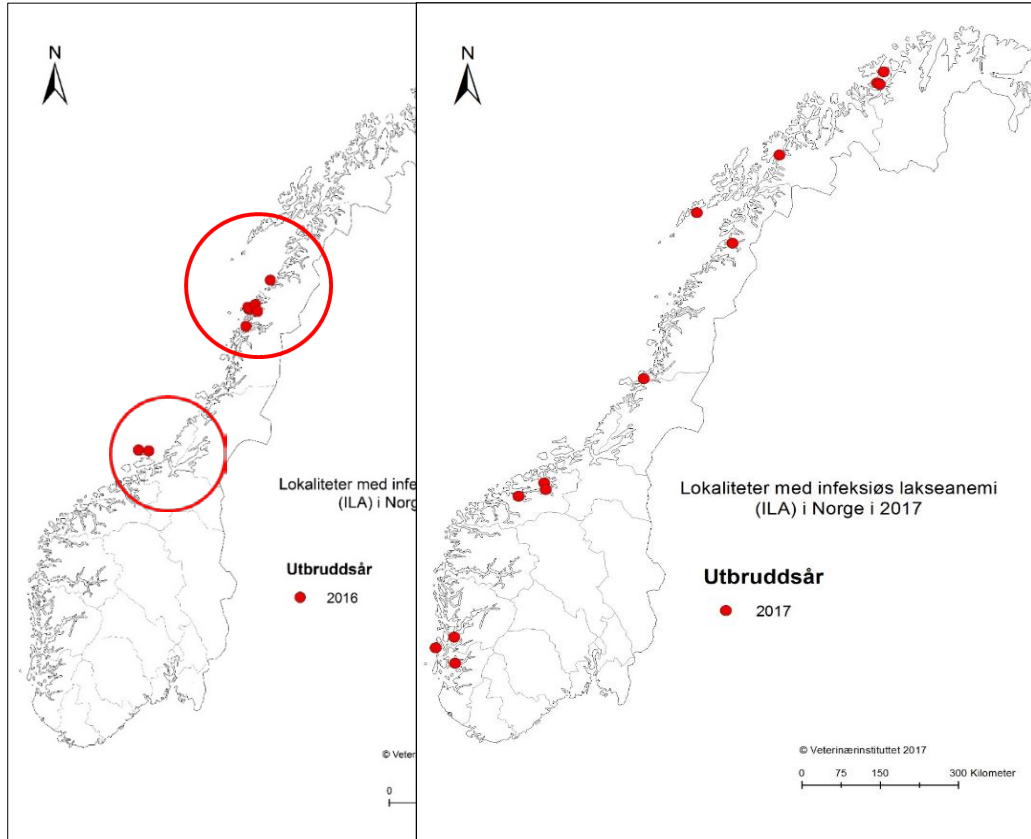


Annual numbers of registered ISA-outbreaks in Norway in the period of 1984 - 2018



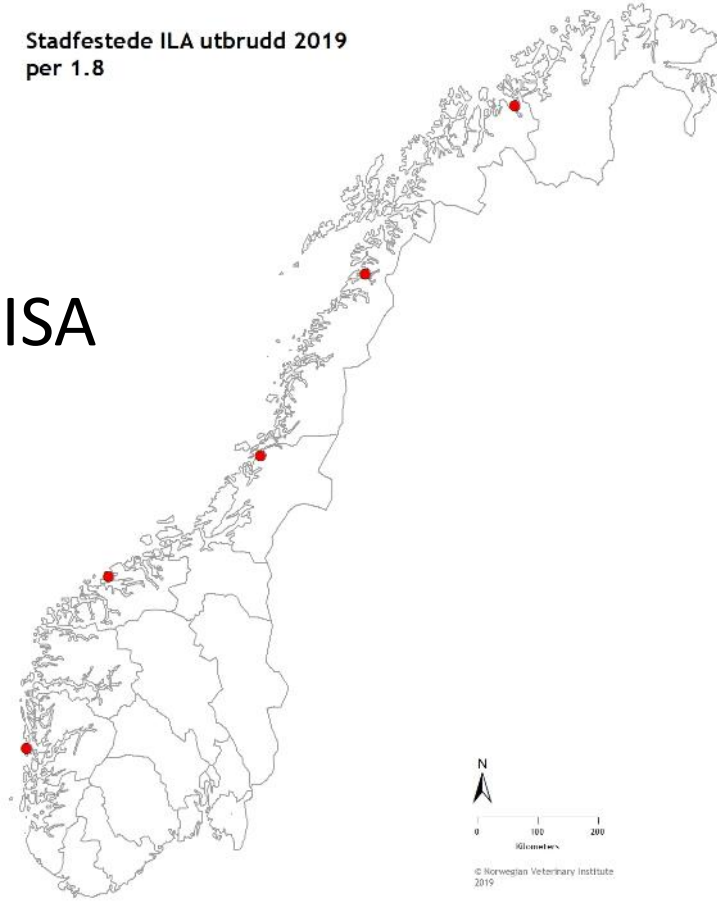
ISA 2018	no
Confirmed cases	13
Suspected cases	4

Infectious salmon anaemia (ISA) 2016-2018



Stadfestede ILA utbrudd 2019
per 1.8

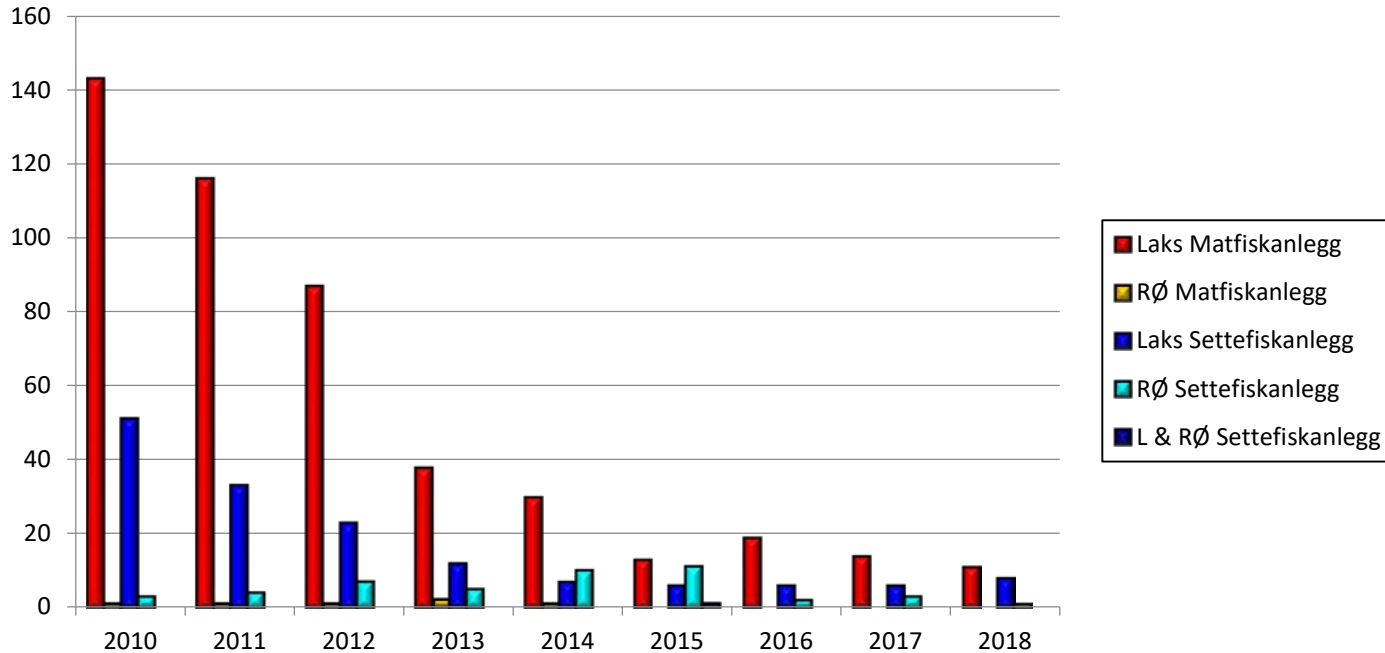
Confirmed ISA 1.8 2019



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2019



Infectious pancreatic necrosis (IPN)



Number of sites with IPN, distribution in salmon, rainbow trout, hatcheries and ongrowing sites 2010-2018

Heart and skeletal muscle inflammation (HSMI)

Impact salt water sites

Totalt: 3,7

Impact fresh water sites

1,7/2,2 (Flow through/RAS)

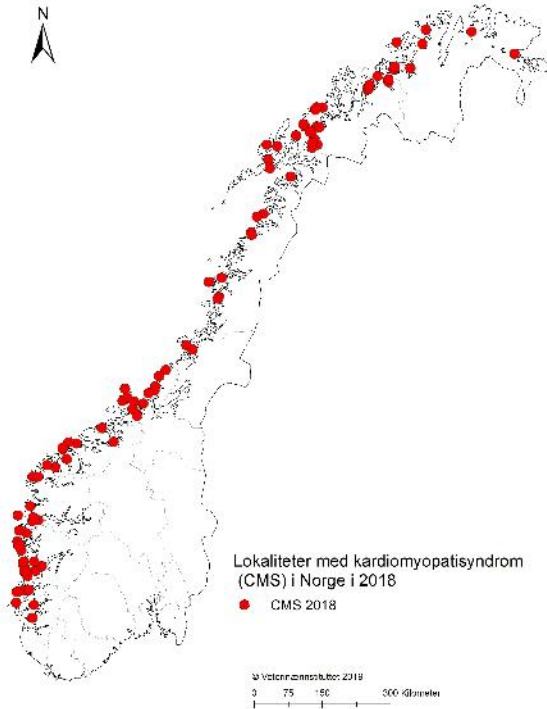
	NVI	NVI and private laboratories
2018	104*	194**
2017	93*	184**
2016	101*	187**
2015	135*	
2014	181	
2013	134	
2012	142	
2011	162	
2010	131	

Cardiomyopathy syndrome (CMS)

	NVI	NVI and private laboratories
2018	101*	226**
2017	96*	196**
2016	90*	146**
2015	105*	129**
2014	107	
2013	100	
2012	89	
2011	74	

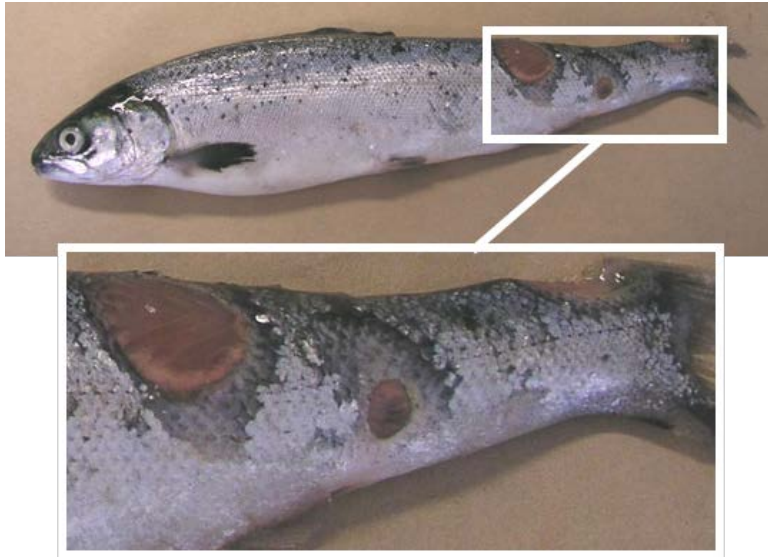


Cardiomyopathy syndrome (CMS)



Region	Impact (1-5)
Total	3,9
South-West	4,2
North-West	4
Middle	4,1
North	3,7

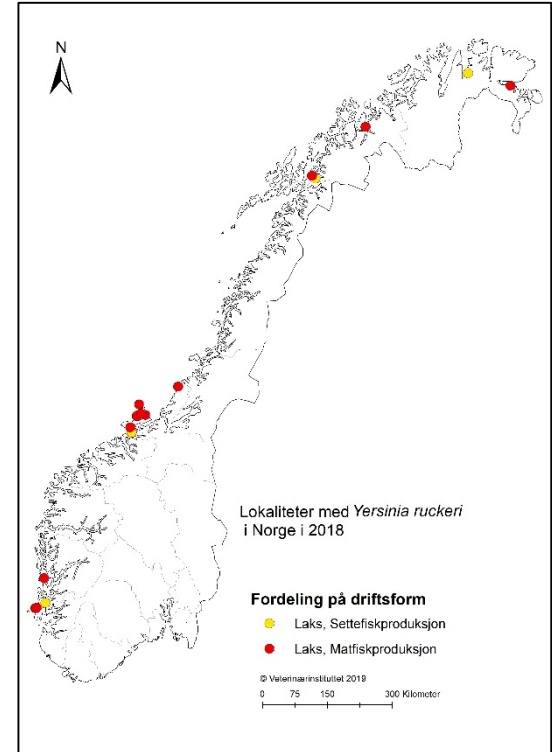
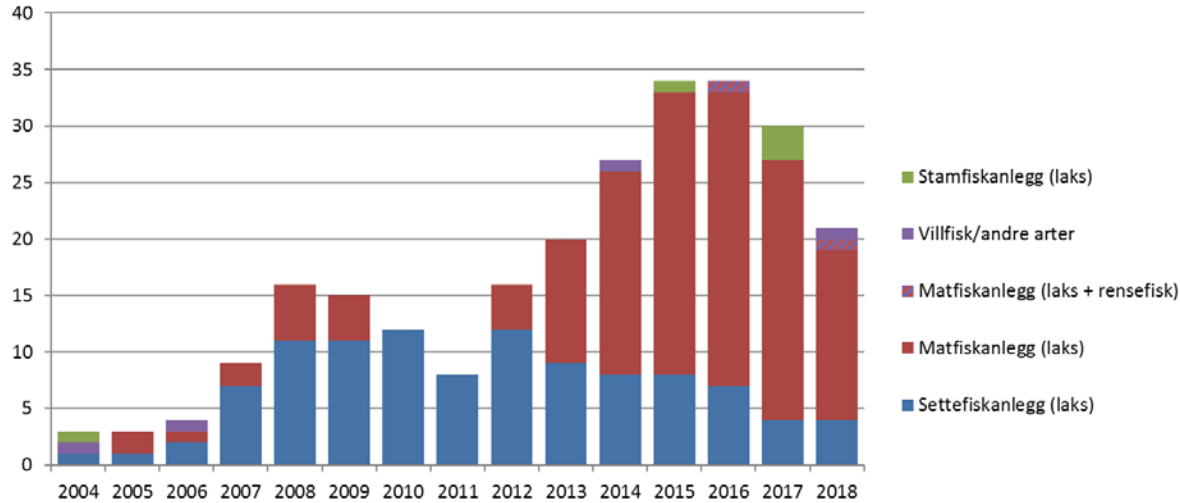
Ulcers (*Moritella viscosa*)



Region	Impact (1-5)
Total	3,1
South-West	2,1
North-West	3
Middle	3,4
North	3,4

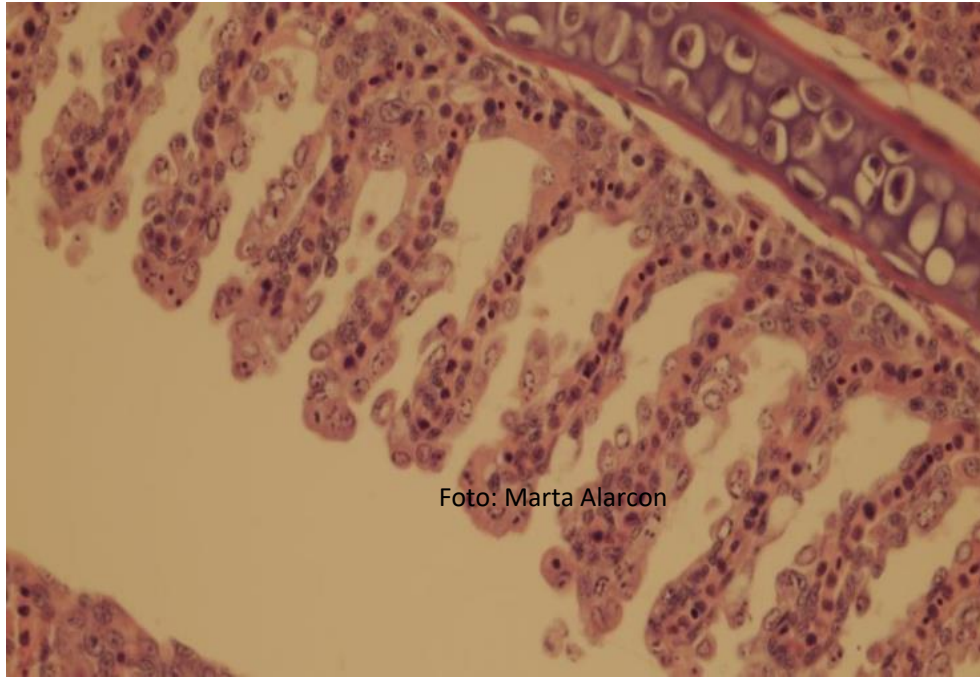
Yersinia

Antall registrerte lokaliteter med *Y. ruckeri* påvisning per år





Gill health - a complex and increasing problem



Sea water	Impact (1-5)
Region	
South-West	2,8
North-West	4,1
Middle	4,1
North	2,6

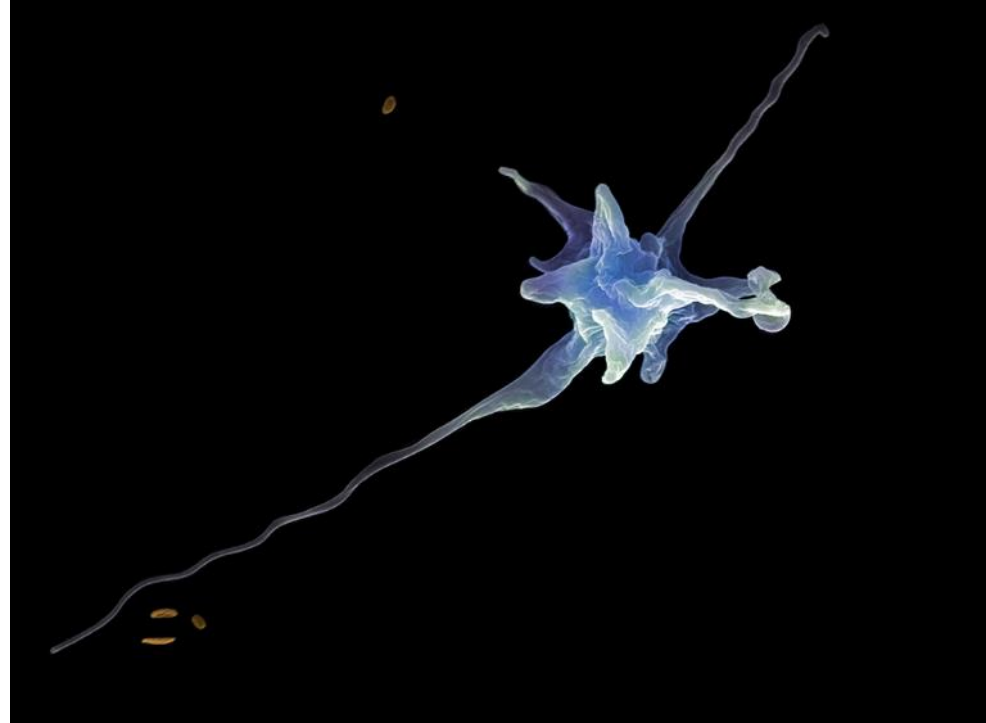
AGD

Paramoeba perurans

2018

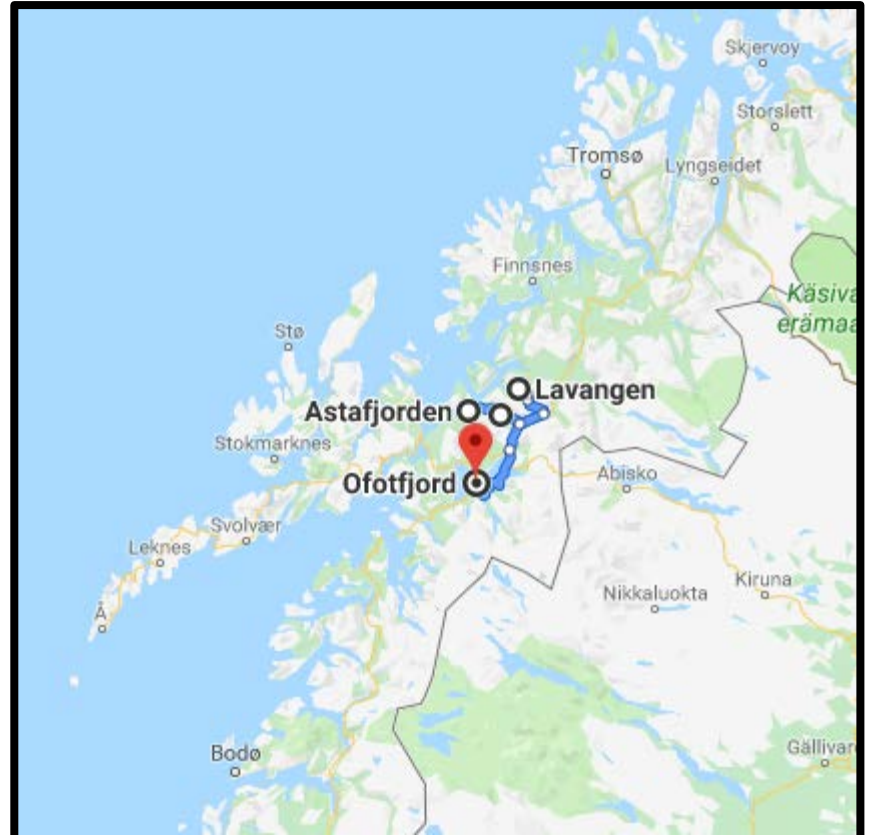
Detection (PCR) throughout the year

No obvious changes

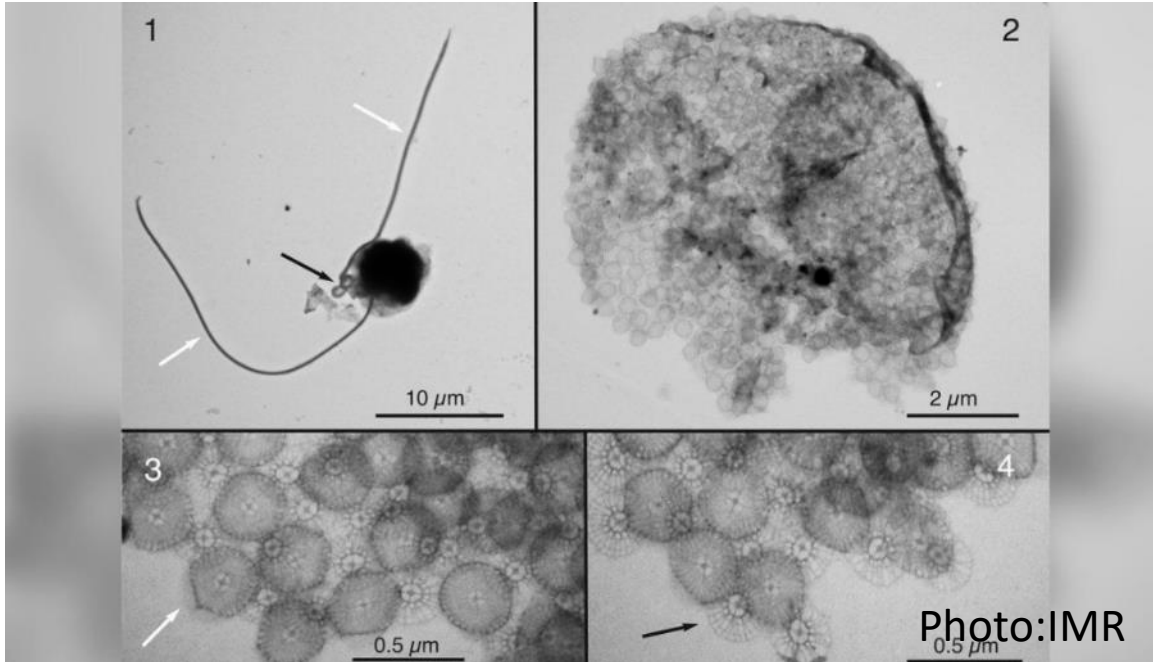


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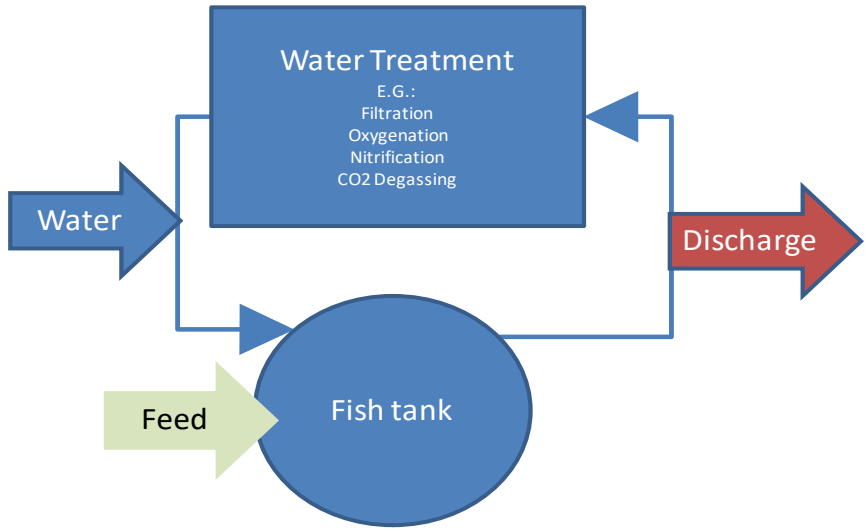




Crysochromulina leadbeaterii



12.000 tons
Troms/Nordland

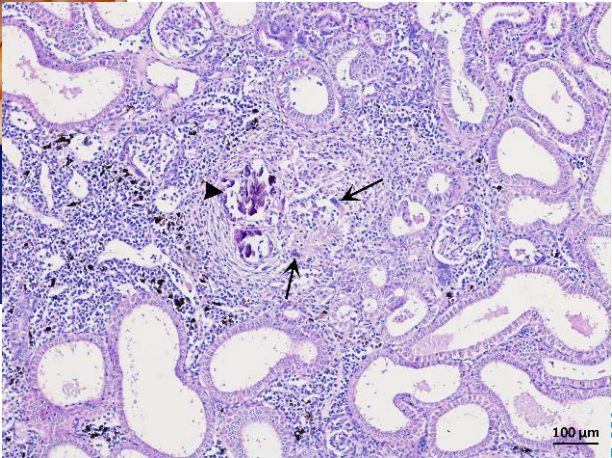
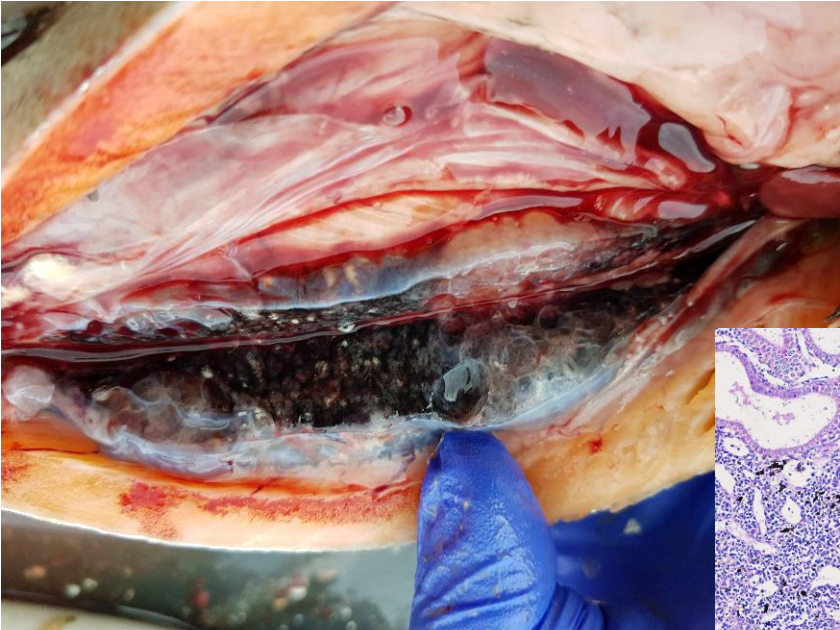


RAS

Fresh water – salt water

Hydrogen sulfide

Nephrocalcinosis



40 mil lumpfish



Photo: Jannicke Wiik-Nielsen

Gyrodactylus salaris



Photo: Jannicke Wiik-Nielsen, Norwegian Veterinary Institute

Seminar on wild salmon disease autumn 2019 (NINA and NVI)





Conclusions

- **Sea lice:** Resistance to anti sea lice chemicals. High mortalities associated with nonchemical treatment. Welfare issue.
- **PD:** Decreasing outbreaks, but still high numbers
- **ISA:** Same numbers of cases, but new areas
- **HSMI:** Same numbers of infected sites
- **CMS:** Increasing outbreaks and impact
- **IPN:** Low numbers of disease outbreaks
- **AGD** established in large parts of Norway. Positive detection (PCR) throughout the year, but a controlled situation
- **Gill health:** A complex and increasing problem
- ***G. salaris*:** An increasing number of rivers recovered



Thank you for your attention!

