

Overview of the Fish Health status in Norway 2017

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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





Salmon lice

....a challenge to fish health

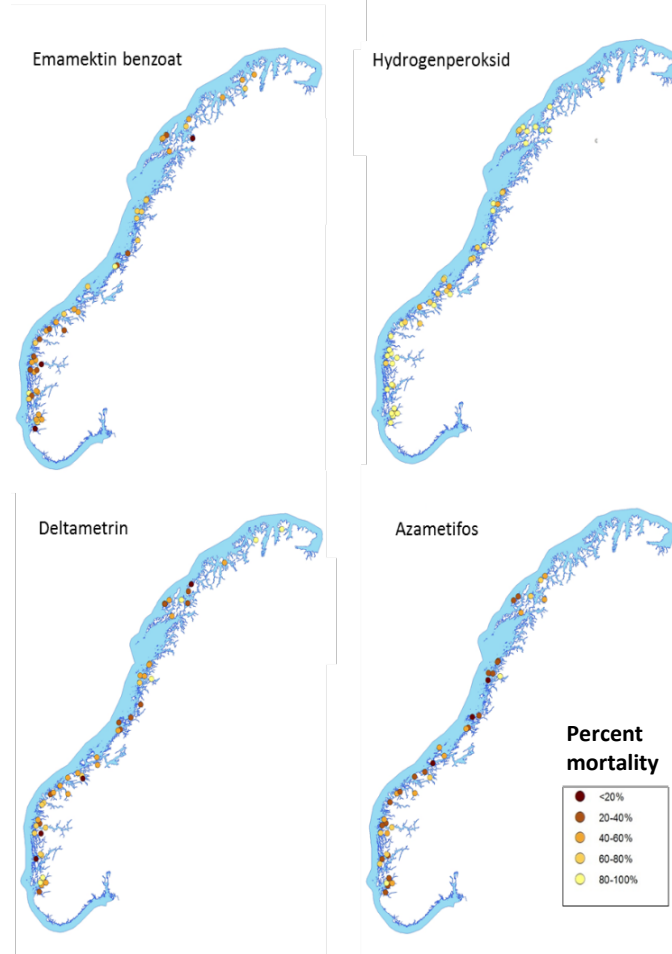
Impact: 4,5/4,1(AS/RBT)

Resistance and treatments

Treatments against salmon lice

	2011	2012	2013	2014	2015	2016	2017
Azametifos	409	691	480	749	619	257	58
Pyretroider	456	1155	1123	1043	662	276	80
Emamektin benzoat	288	164	162	481	523	608	319
Flubenzuroner	23	129	170	195	201	173	79
Hydrogenperoksid	172	110	250	1009	1279	629	214
Sum legemidler	1348	2249	2185	3477	3284	1943	750
Non chemical treatments		136	110	177	202	1178	1669

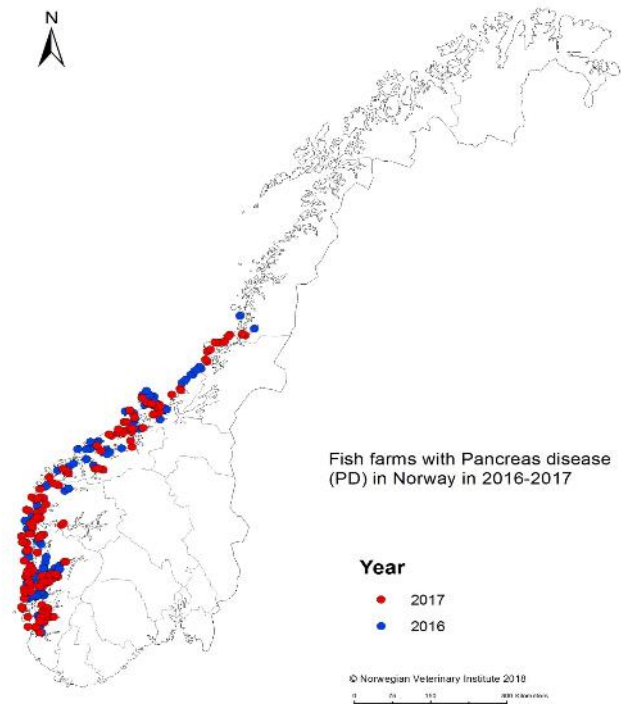
Salmon louse resistance



- Mortality of lice in a bioassay for emamectin benzoate, hydrogen peroxide, deltamethrin and azamethiphos.
- Dark colour represents lower mortality (resistance) on exposure to a certain concentration of the active substance.



Pancreas disease PD



Number of annual outbreaks of PD in Norway	
2017	176
2016	138
2015	137
2014	142
2013	99
2012	137

PD- a serious disease sykdom?

Impact 2016

Total: 3,4

Nord: 1,5

Midt: 3,3

NordV : 4,2

SydV: 4,8

Impact 2017

Total: 3,3

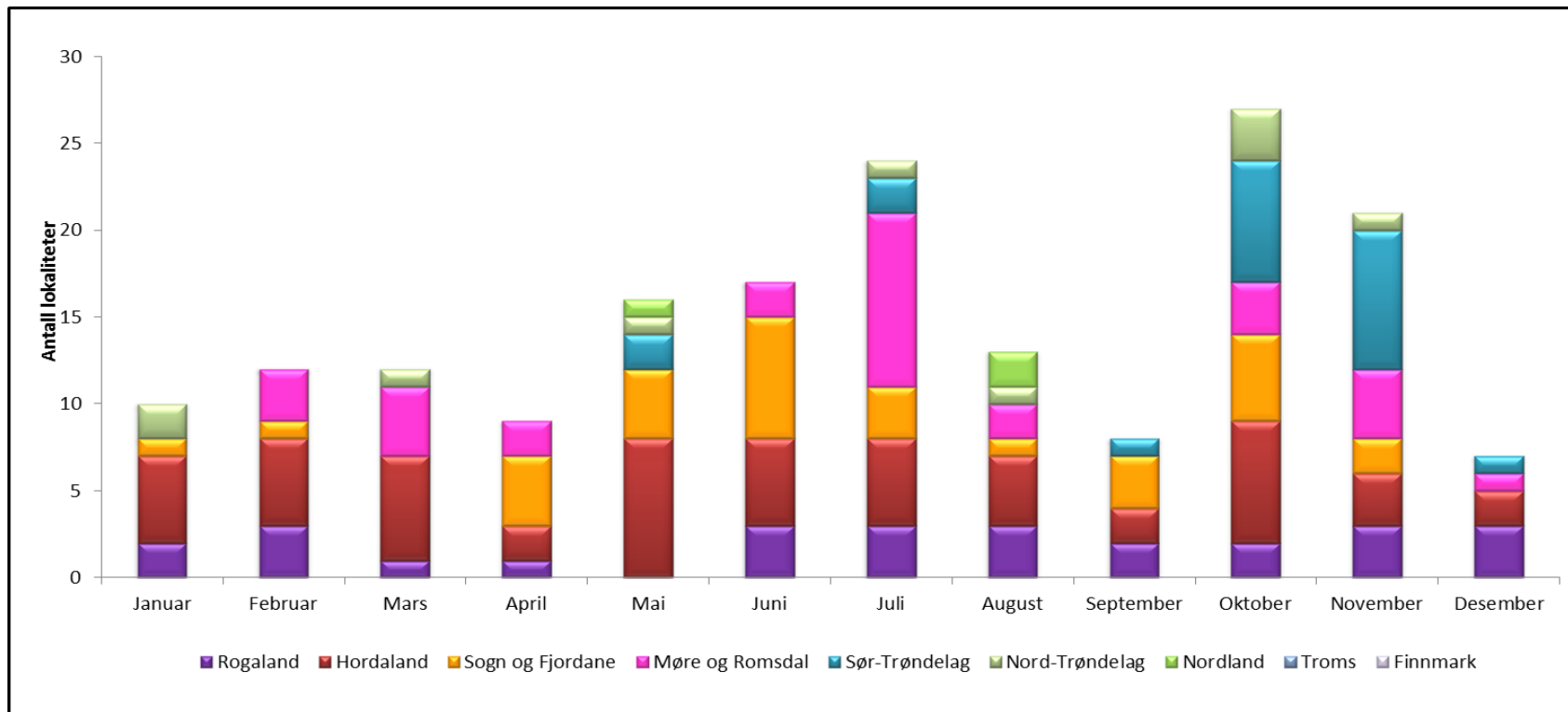
Nord: 1,3

Midt: 3,1

NordV : 4,3

SydV: 3,8

Monthly occurrence by county 2017

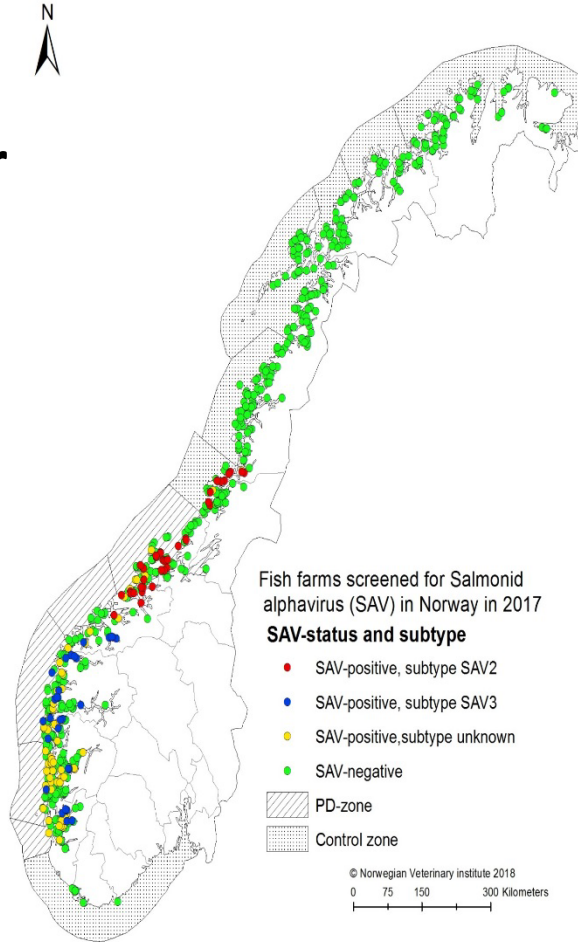


Regulation of September 2017

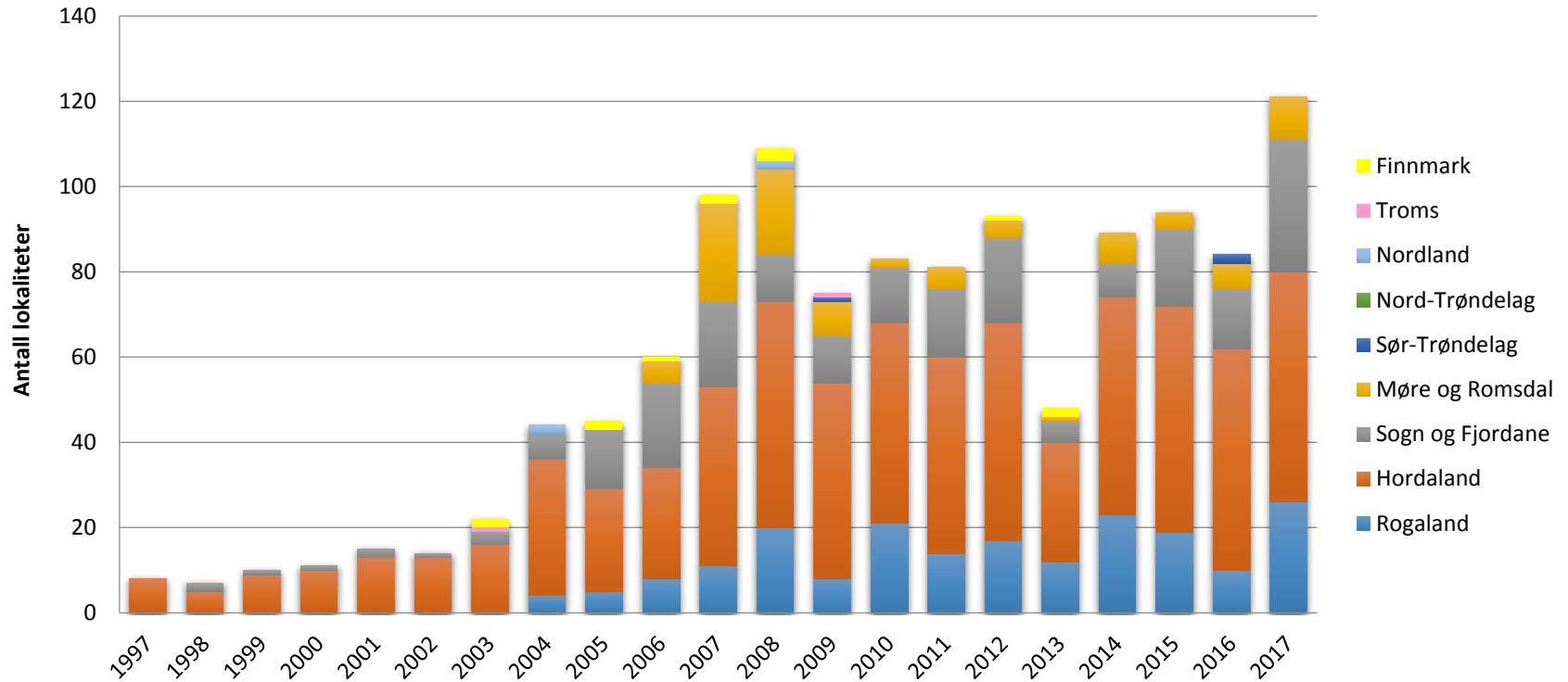
All salmonid fish farms that uses untreated seawater must sample 20 fish each month and send them for analysis for SAV by PCR at an accredited laboratory. All results of this testing must be reported to the national reference laboratory.



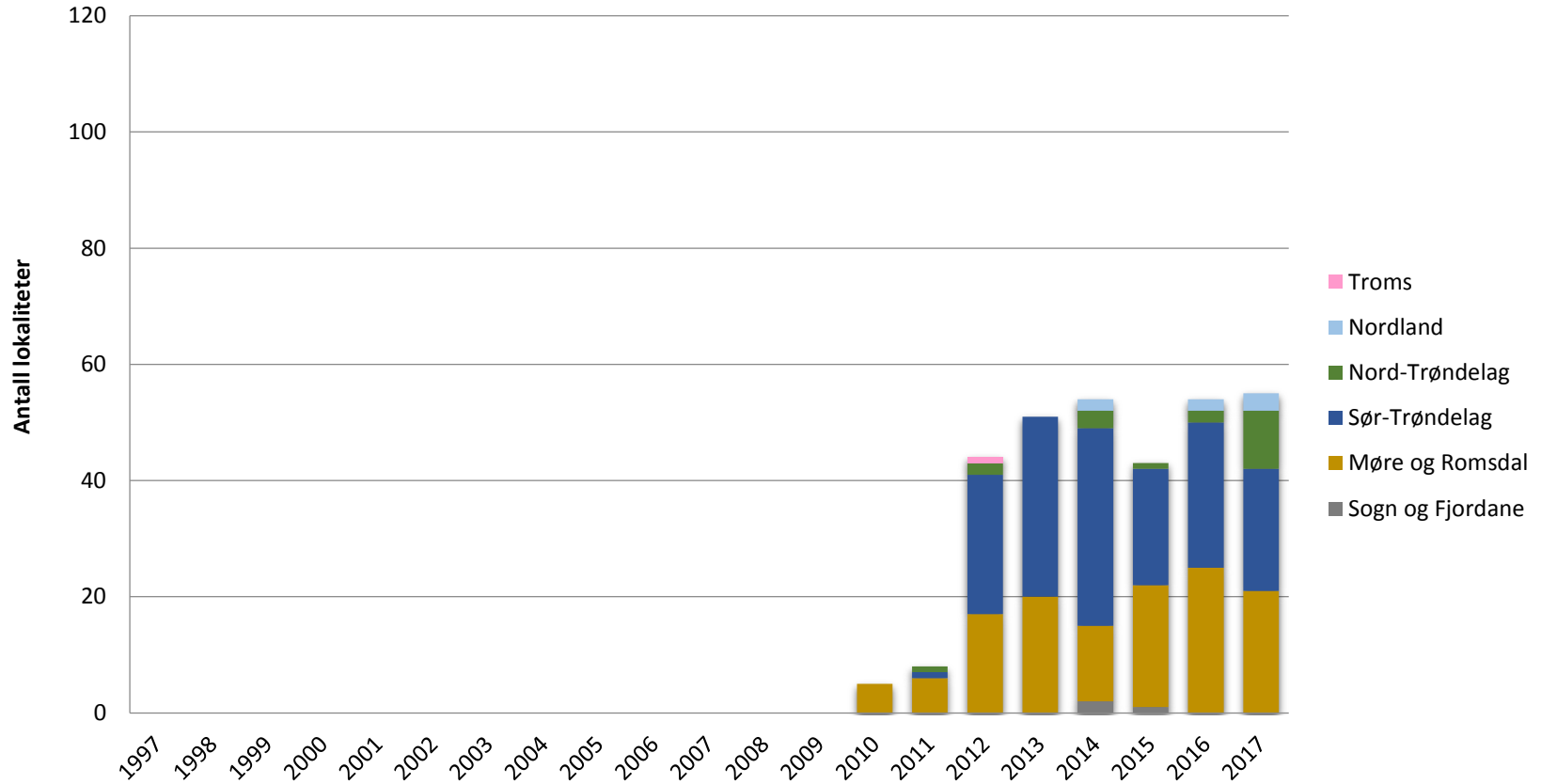
Fish farms screened for SAV in 2017



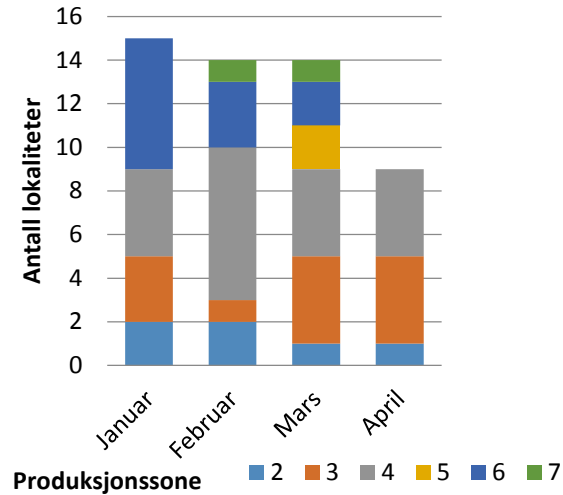
SAV3-cases 1997-2017



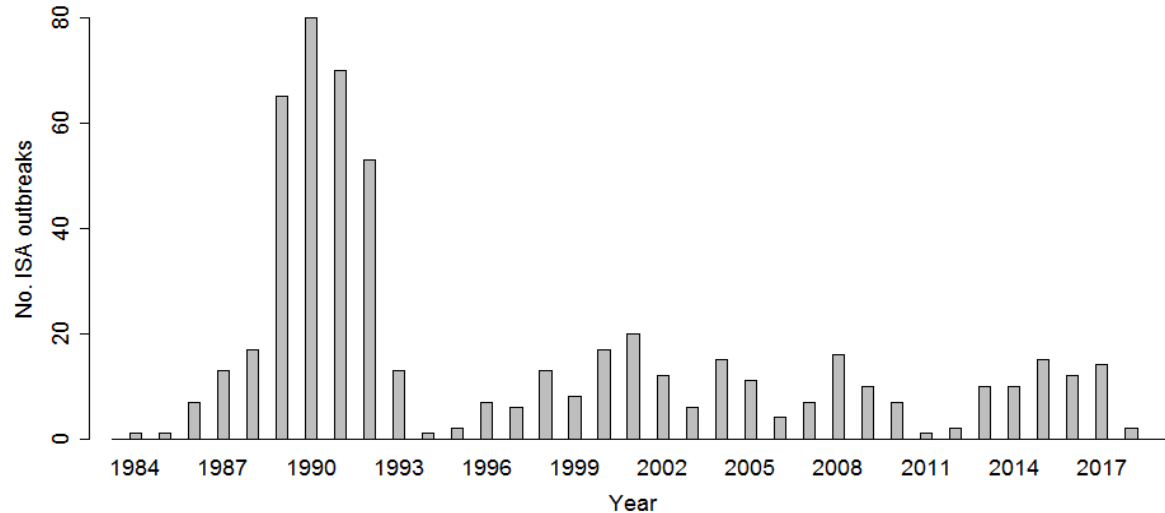
SAV2-cases 1997-2017



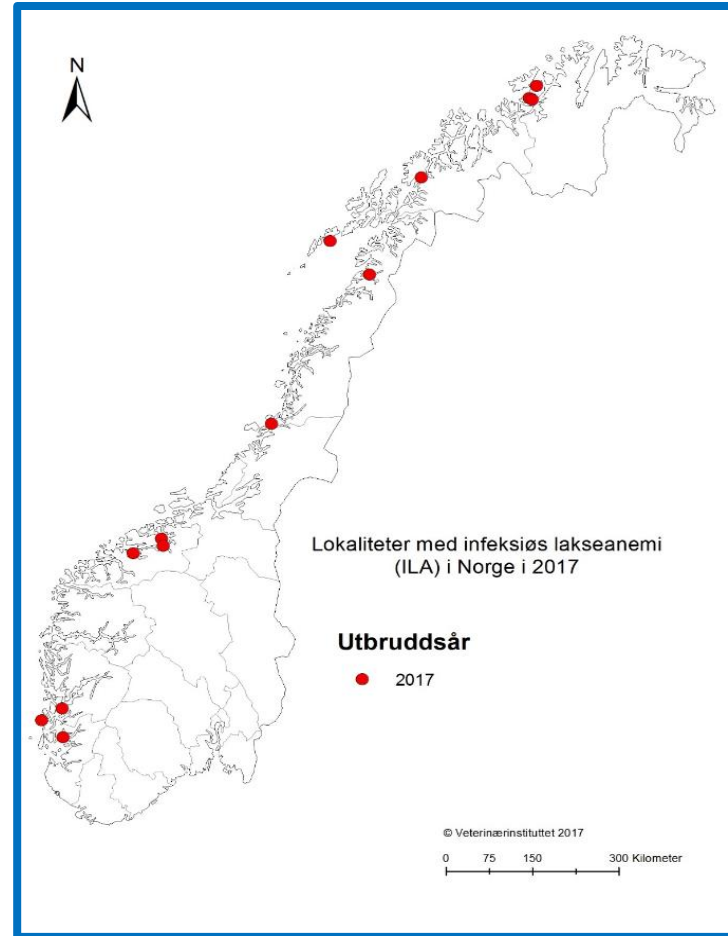
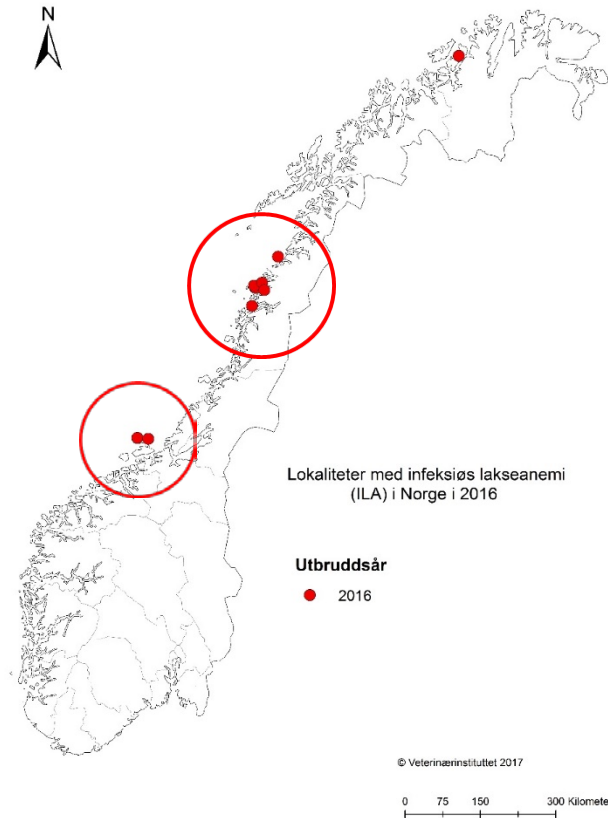
52 case of PD January-April 2018

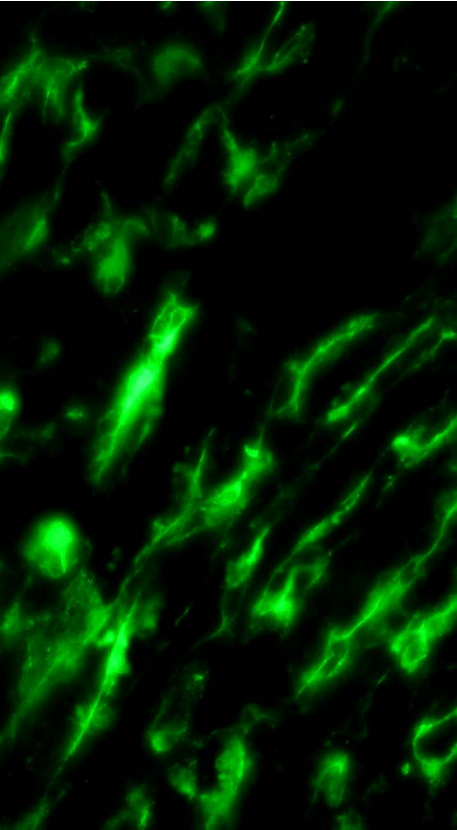


Annual numbers of registered ISA-outbreaks in Norway in the period of 1984 – 2017.



Infectious Salmon Anemia (ISA)

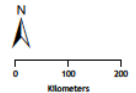




Outbreaks of infectious salmon anemia (ISA) in Norway 2017

Region	Number of outbreaks
Møre og Romsdal	3
Nordland	2
Hordaland	2
Finnmark	1
Nord-Trøndelag	1
Rogaland	1
Troms	1

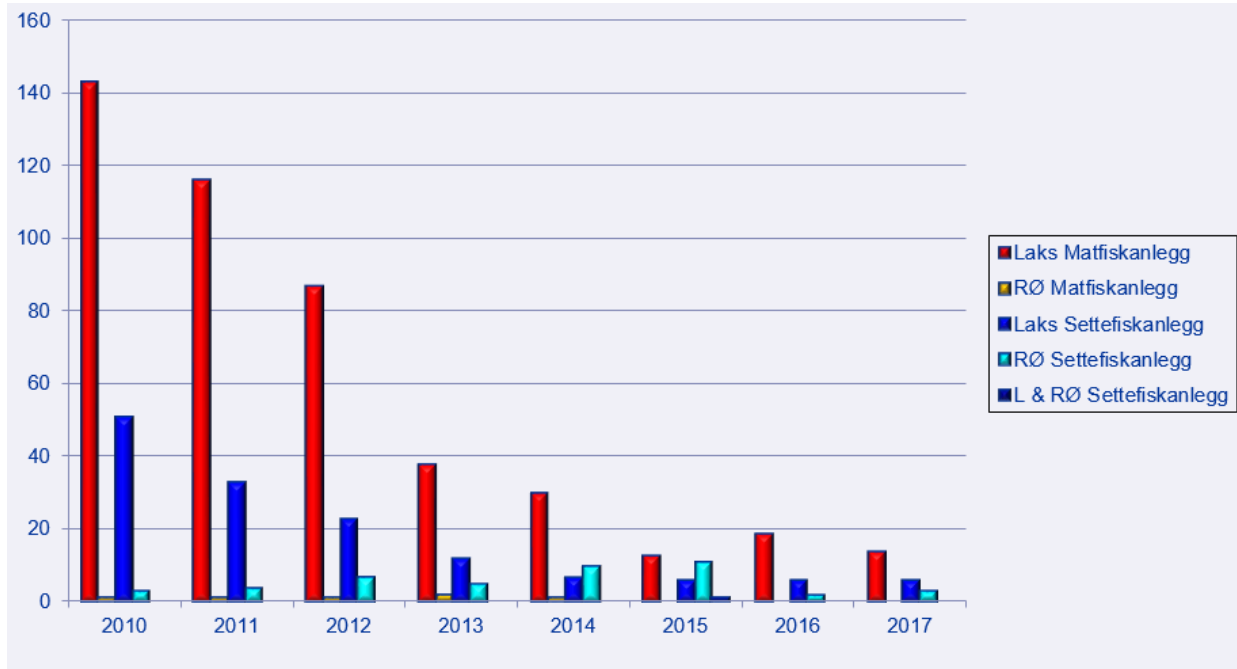
**Stadfestede ILA utbrudd 2018
per 23.05.2018**



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2018



Infectious pancreatic necrosis (IPN)



Number of sites with IPN, distribution in salmon, rainbow trout, hatcheries and ongrowing sites 2010-2017

Heart and skeletal muscle inflammation (HSMI)

2017: 93* (183)**

2016 101* (202)**

2015 135* (187)**

2014 181

2013 134

2012 142

2011 162

2010 131

Impact

Total: 3,6 (3,6)

Nord: 4,6 (4,4)

Midt: 4,3 (3,8)

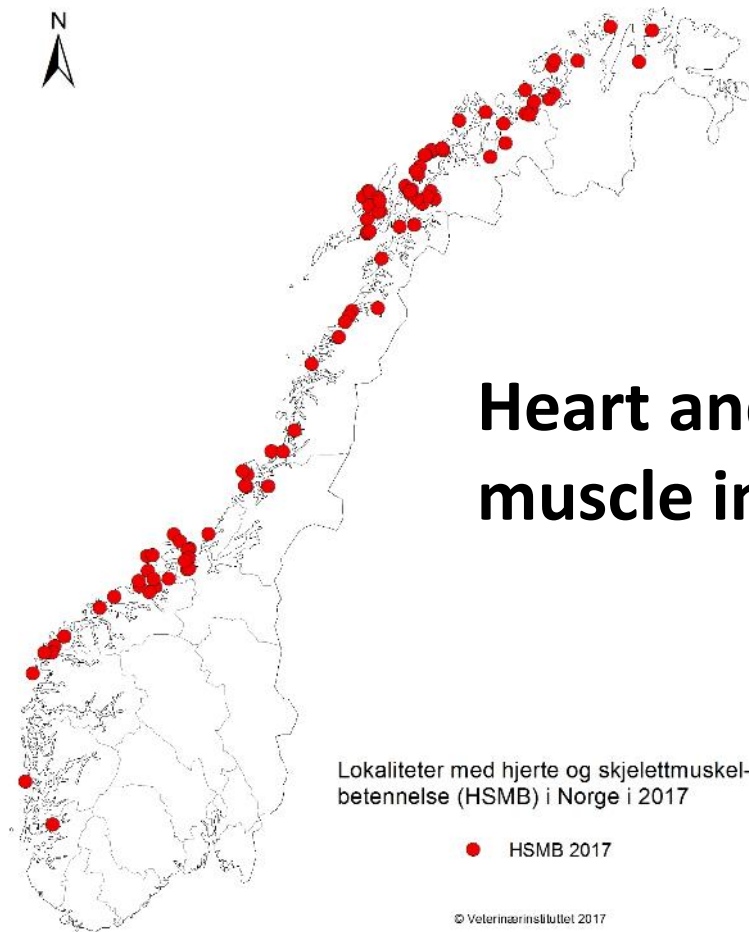
NordV : 3,0 (3,0)

SydV: 2,8 (3,0)

*Data from NVI. Data from private laboratories included

** Data from private laboratories included





Heart and skeletal muscle inflammation (HSMI)

Lokaliteter med hjerte og skjelettmuskelbetennelse (HSMB) i Norge i 2017

● HSMB 2017

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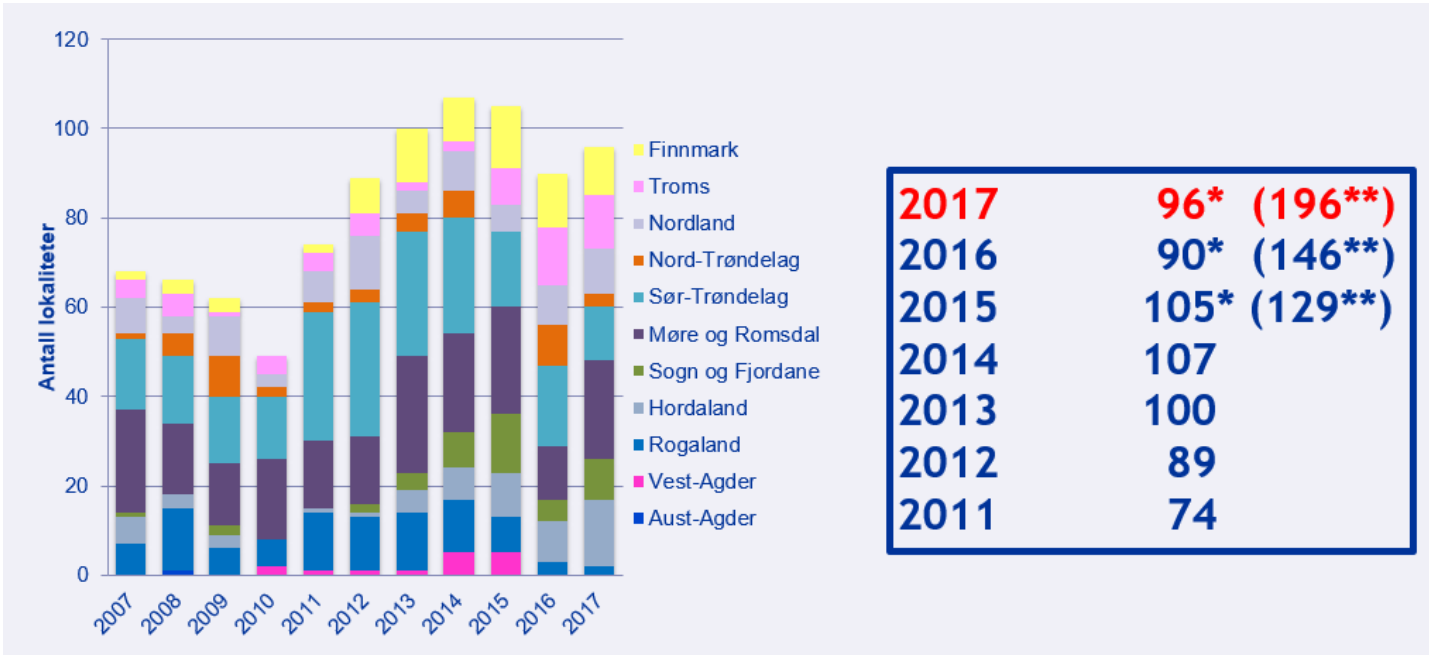
0 75 150 300 Kilometer



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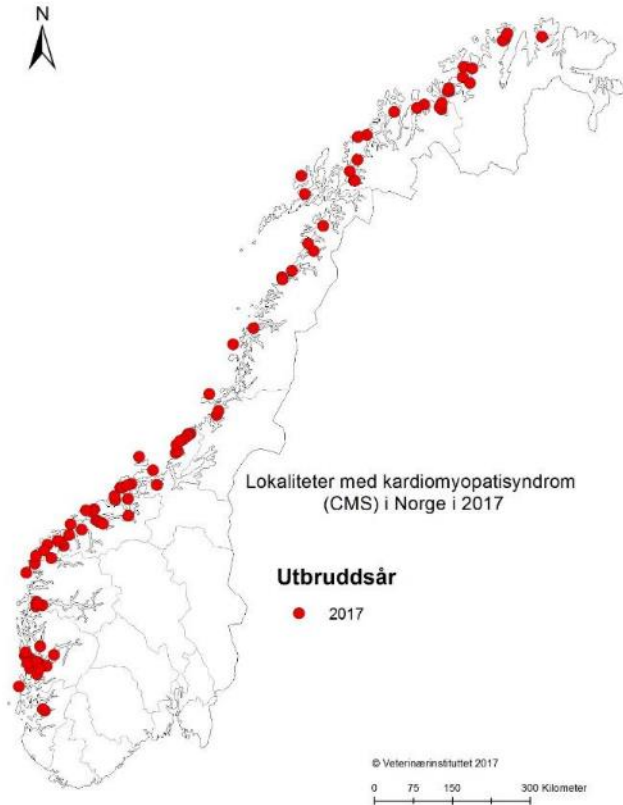
Cardiomyopathy syndrome (CMS)



*Data from NVI. Data from private laboratories included

** Data from private laboratories included

Cardiomyopathy syndrome (CMS)



Impact

Total: 3,9 (3,7)

Nord: 3,9 (4,2)

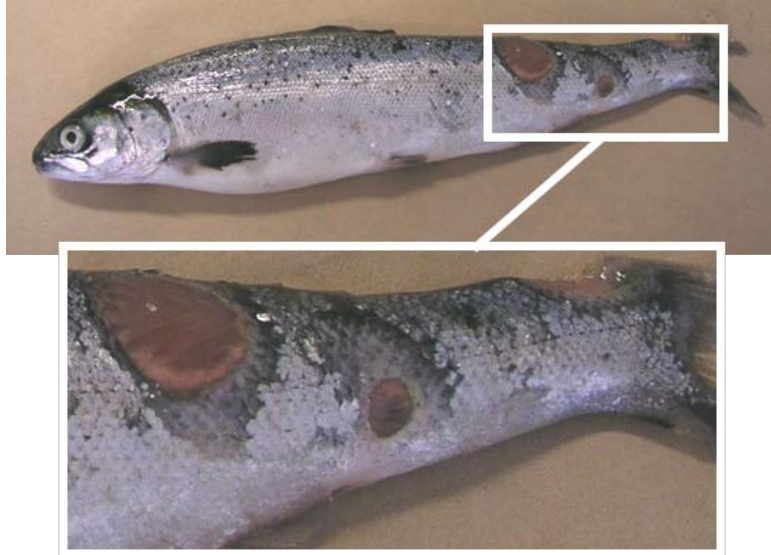
Midt: 4,3 (3,6)

NordV: 4,0 (3,2)

SydV: 4,2 (3,5)



Ulcers

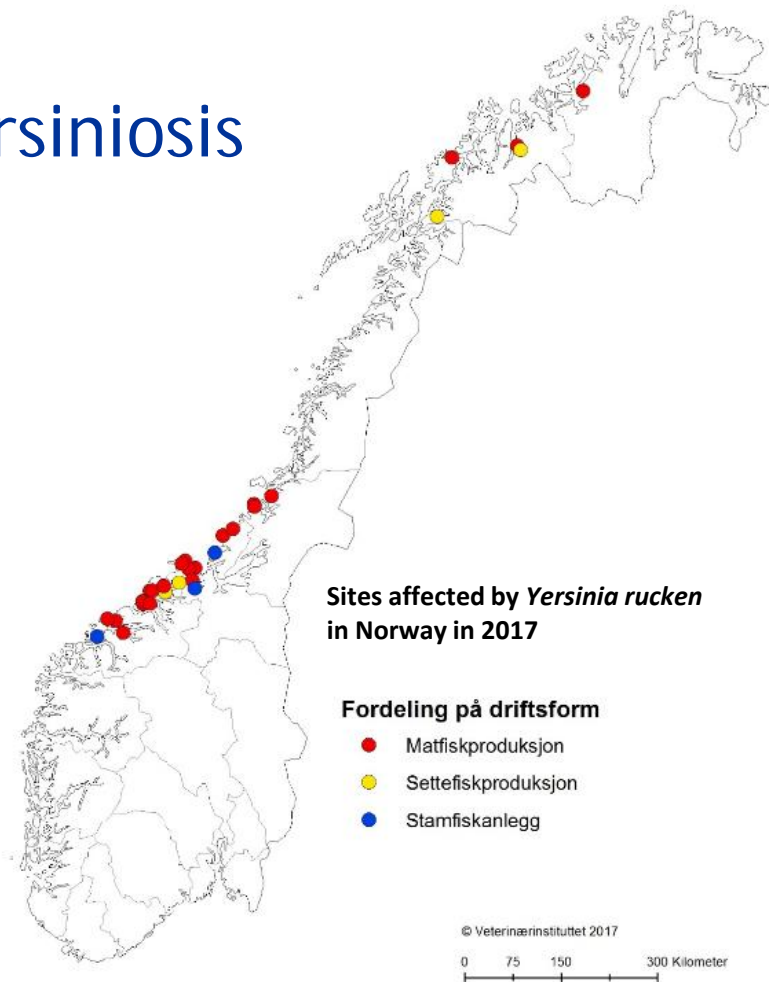


Impact

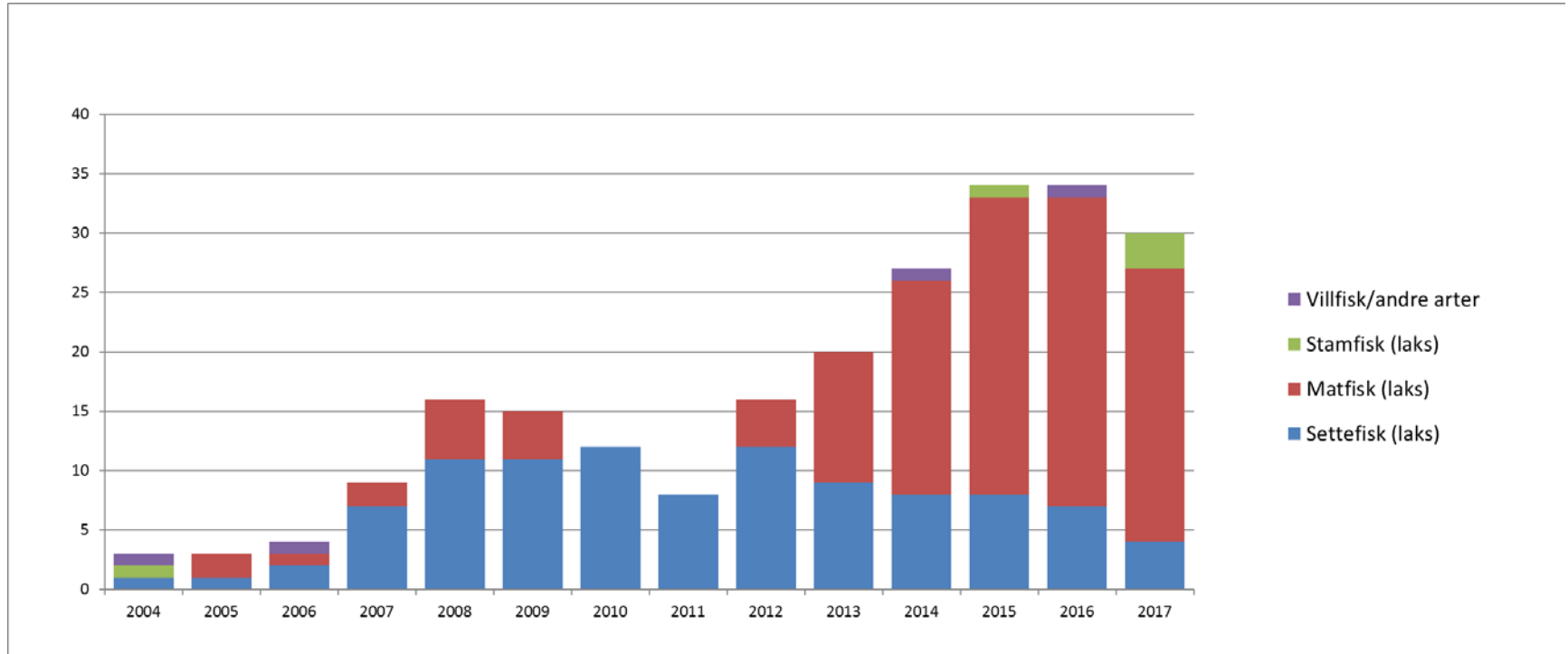
Total:	2,8	(3,0)
Nord:	3,2	(3,6)
Midt:	3,0	(2,8)
NordV:	2,3	(2,09)
SydV :	3,0	(2,0)



Yersiniosis



Annual number of Yersinia ruckeri outbreaks in Norway 2004 - 2017



AGD

Paramoeba perurans

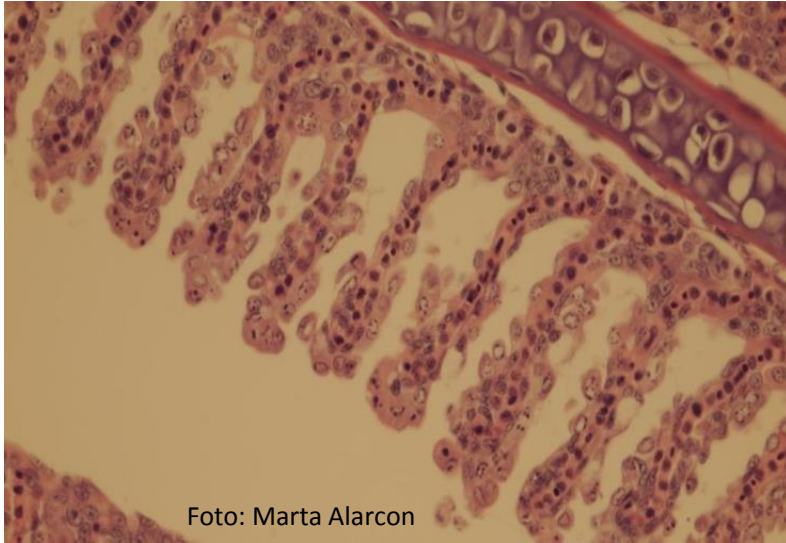
2017

Detection (PCR)
throughout the year
Treatment from medio
September

From Agder to Nordland



Gill health - a complex and increasing problem



Impact

Total: 3,4

Nord: 2,8

Midt: 3,4

NordV: 4,5

SydV: 4,3

The health situation in cleaner fish



Lumpsucker. Photo: Geir Bornø, Norwegian Veterinary Institute

30-31 mil farmed cleaner fish



Diseases- Welfare - Disease transmission

Gyrodactylus salaris



Photo: Jannicke Wiik-Nielsen, Norwegian Veterinary Institute

Conclusions

- Sea lice: Resistance to anti sea lice chemicals. Increasing mortalities associated with treatment. Welfare issue.
- PD: Increased number of infected sites
- ISA: Same numbers of cases, but new areas
- HSMI: Same numbers of infected sites
- CMS: Increase?
- 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

