

Update of the Fish Disease Situation in Norway

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National Veterinary Institute



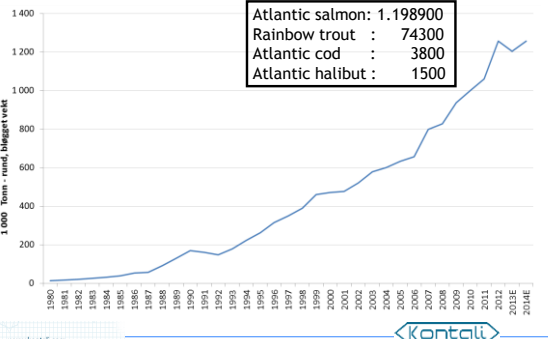
THE MAJOR SPECIES

- Salmon
- Rainbow trout
- Atlantic halibut
- Cod



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Norwegian production (tons) of Atlantic salmon and rainbow trout 1980-2014



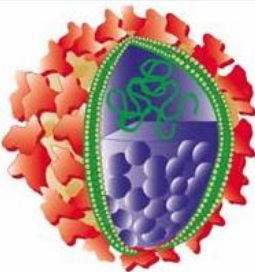
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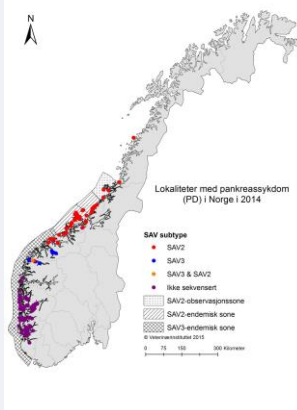


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Infections with Salmonide alphavirus (Salmon Pancreas Disease)



2014: 142
2013: 99
2012: 137



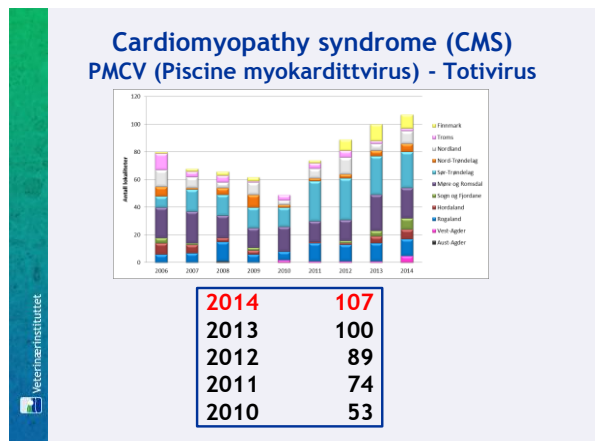
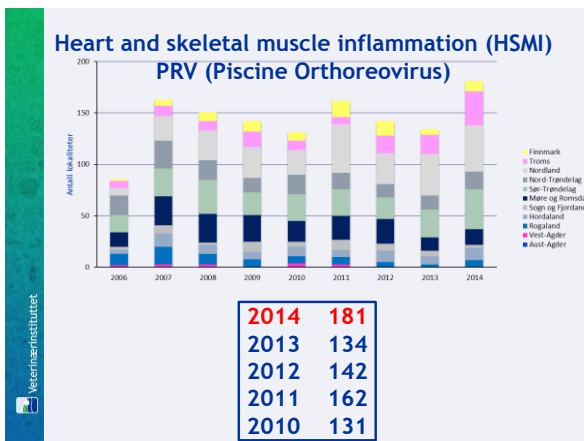
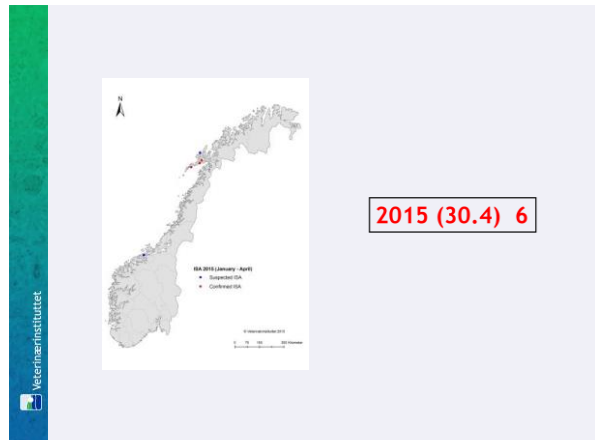
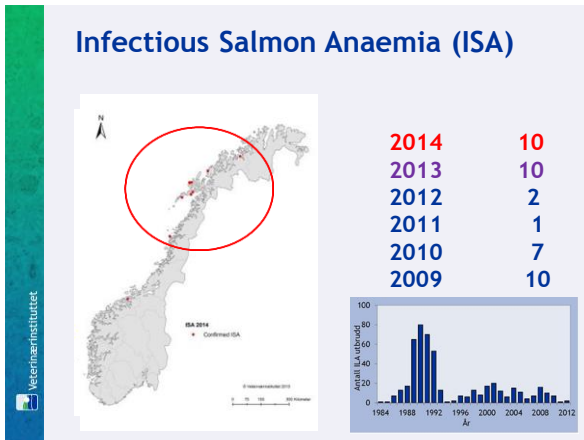
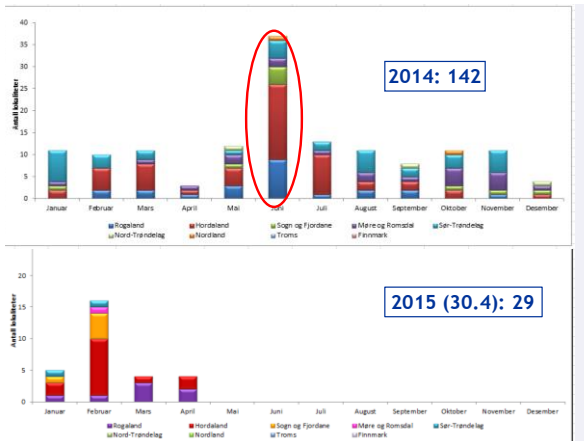
2014: 142
2013: 99
2012: 137

10 years

SAV 3
SAV 2

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Infectious pancreatic necrosis (IPN)

2013: 56

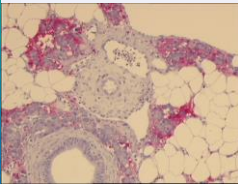
Marine water: 30
Fresh water: 17

Salmon (AS): 50
RBT: 6

2014: 48

Marine water: 19
Fresh water: 30

Salmon (AS): 38
RBT: 11

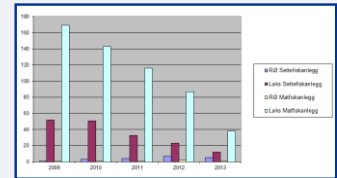


Infectious pancreatic necrosis (IPN)

2009: 223



2014: 48



QTL
Eradication program

A new disease in rainbow trout probably associated with a virus (VirusY)

Three hatcheries in 2013 (one hatchery in 2014)

- Western Norway

Rainbow trout 30-100g

- Moderate to high mortalities
- Circulatory failure and anemia
- Inflammation of heart and of red muscle
- Necrosis in the liver



Detection of a novel virus (VirusY)

Gene sequence from a reovirus detected in diseased fish

- Real-time RT-PCR assay established
- Termed «virus Y»

High throughput sequencing to classify and to characterize the virus is on-going

Rainbow trout cohabitants were infected via water

8 weeks post challenge in a pilot study

- Histopathological changes in the heart may indicate that the disease is transferred to cohabitant fish

A new disease in rainbow trout probably associated with a virus (VirusY)

- The disease seems to affect rainbow trout in fresh water farming, however cases in sea water production have recently been observed

Investigations are needed to reveal whether virus Y is the causative agent of the new disease in rainbow trout!

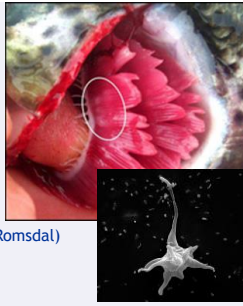


AGD *Paramoeba perurans*

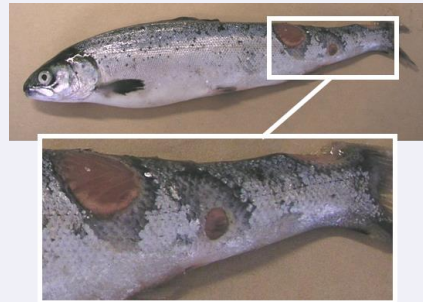
First detected in 2006
Second detection in 2012

2013
58 sites
Western Norway (Vest Agder - Møre og Romsdal)
90% in October/November
Several treatments

2014
More than 69 cases
First cases in late August

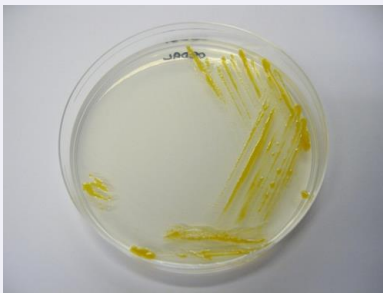


Ulcers



Flavobacterium

2014 : 2
2013 : 5
2012 : 12



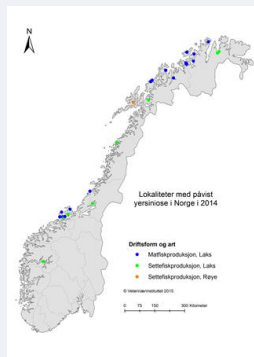
Vibrio salmonicida

2014: 0
2013: 13 sites
2012: 21 sites



Yersinia

2014 : 27
2013 : 20
2012 : 16



→ Smolt quality
Production
related diseases

Production losses
Fish welfare

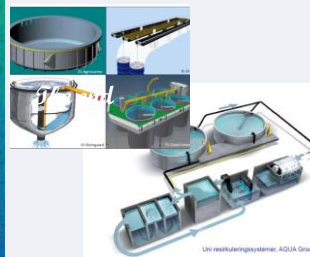
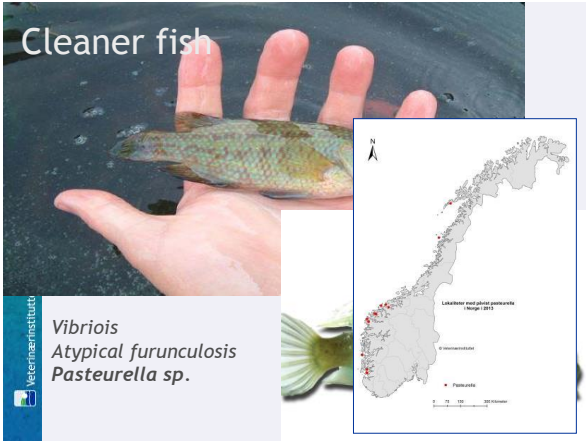
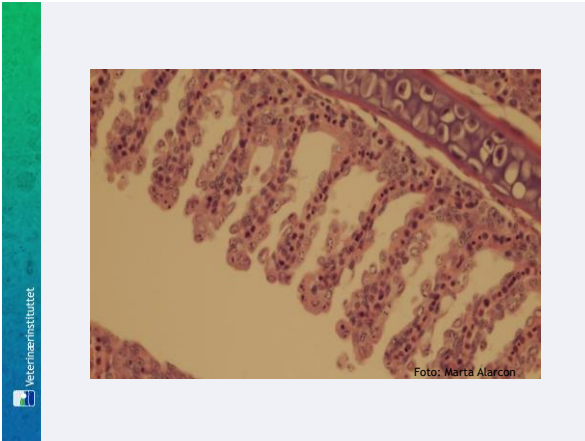


Foto: Geir Borne, Veterinærinstituttet



- ### CONCLUSIONS
- A significant increase in 2014 of cases with infection with SAV. Both SAV2 SAV3 has increased.
 - ISA?
 - HSMI/CMS tend to increase
 - IPN still decreasing!
 - Ulcers are still a significant problem
 - A reduction in no of cases of cold water vibriosis
 - Increasing resistance to anti sea lice chemicals.
 - AGD established in large parts of Norway. Moving further north?
 - Production losses still high, but several companies shows decreasing losses.



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Åse Helen Garseth
- Thanks to:**
Kristoffer Berglund Andreassen (Vesterålen Fiskehelsetjeneste AS)
Eirik Weide (Smøltan AS)
Jørgen Borgan (Mattilsynet)
Elisabeth Treines, Kristin Ottesen, Lene Stokka, Raghild Hanche-Olsen (Havet)
Silviya Spirova (Novasea)
Eirik Monsen (Lerøy Aurora)
Grim Sand Mathisen (Marine Harvest Region Nord)
Ellen Sandvik Berg og Elisabeth Ann Myklebust (Fishguard Alta)
Karianne Jakobsen, Tone Ingebrigtsen, Tom Hoemsnes (Labora)
Robin Ringstad (Lofoten Veterinærserver)
Per Anton Sæther, Øystein Markusen, Kjell Olsen, Koen Van Nieuwenhove, Kay Roger Fjellstad (Marin Helse)
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Dag G.D. Markeng- Fiske-Liv AS
Lene Cathrin Erik og Asger Østvik ved HavbruksTjenesten AS
Torolf Storsul ved Midt-Norsk Havbruk AS
Karl Fjell (Bioserve),
Torbjørn Pedersen (FOMAS)
Pernilla Simolin (Fish guard A/S)
Tom Christian Tonheim (Marine Harvest A/S)
Vidar Vold (Lerøy),
Beth Eversen, Arena

