

Activities of NRL Seafood Norway

Bjørn Tore Lunestad & Nachiket Marathe

EURL *E. coli* Rome 11th October 2022



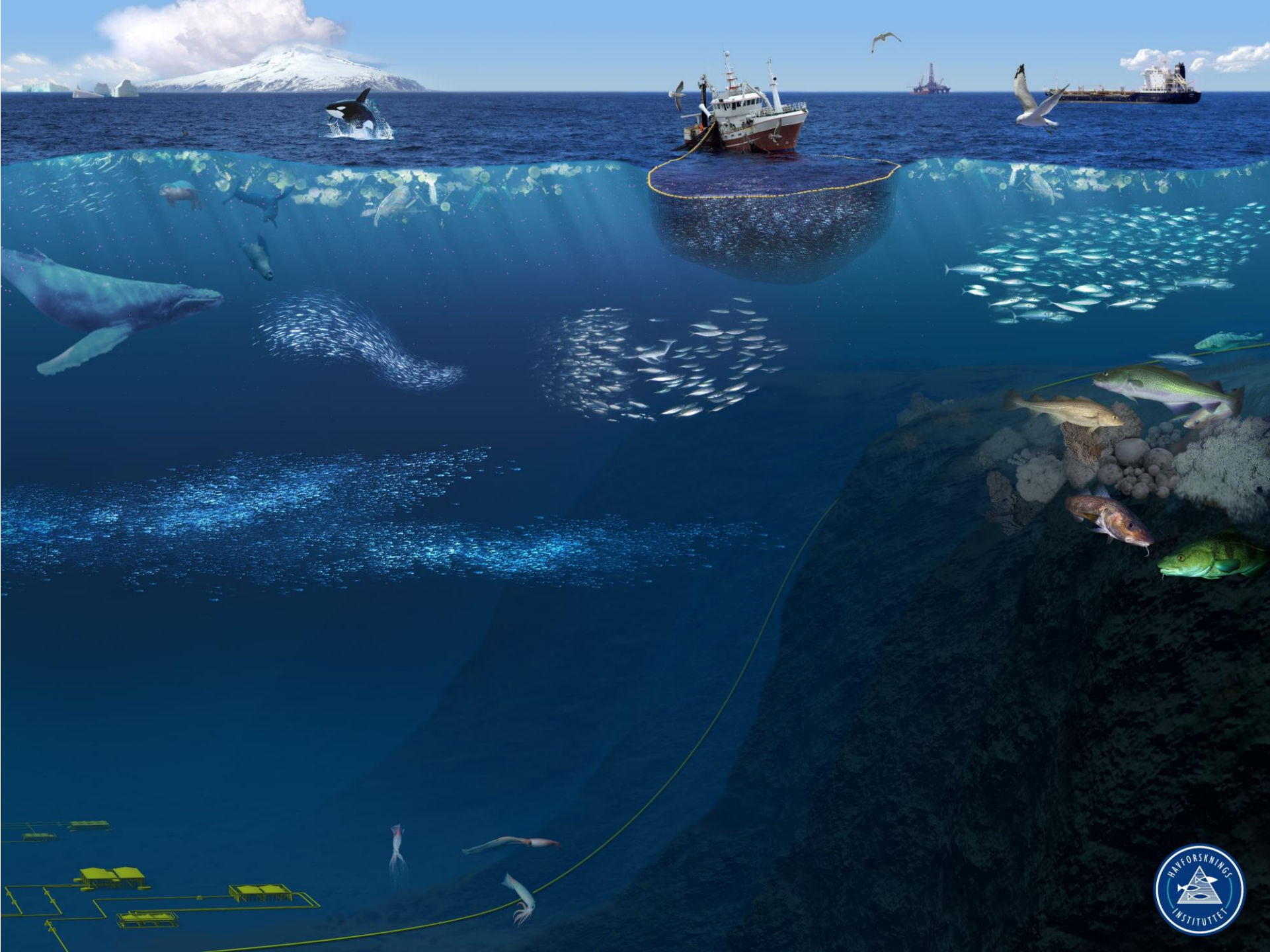
The Institute of Marine Research

Monitoring, research and advise



Employees:

ca. 1 300



Our vessels



Kronprins Haakon



Dr. Fridtjof Nansen



G.O. Sars



Johan Hjort



Kristine Bonnevie



G.M. Dannevig

«Norwegians survived on fish and potatoes»



Herring (*Clupea harengus*)



Single species marine aquaculture in floating cages

Annual sampling (approx. 550)

Blue mussels (*Mytilus edulis*)

Great scallops (*Pecten maximus*)

Horse mussels (*Modiolus modiolus*)

Flat oysters (*Ostrea edulis*)

Pacific oyster (*Crassostrea gigas*)

Banded carpet shells (*Politapes rhomboides*)

Ocean quahog (*Arctica islandica*)



Sales and value of bivalves, crustaceans and echinoderms, 2021

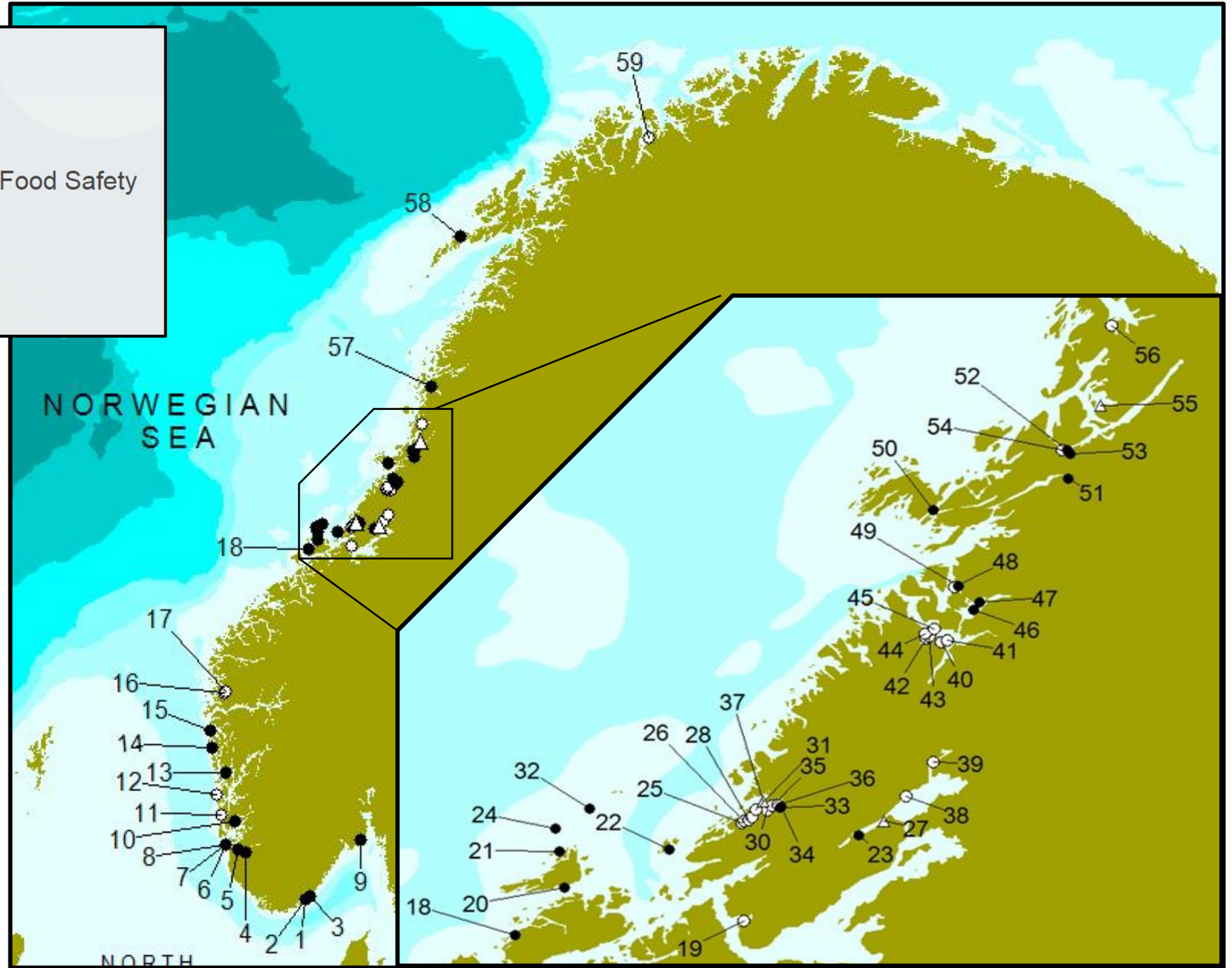
Species	Sales (ton)	Value (thousand €)
Blue mussels (<i>Mytilus edulis</i>)	2 162	2 447
Great scallops (<i>Pecten maximus</i>)	13	78
Flat oysters (<i>Ostrea edulis</i>)	15	90
Others	73	415

Statistics: The Directorate of Fisheries, Bergen, Norway, www.fdir.no

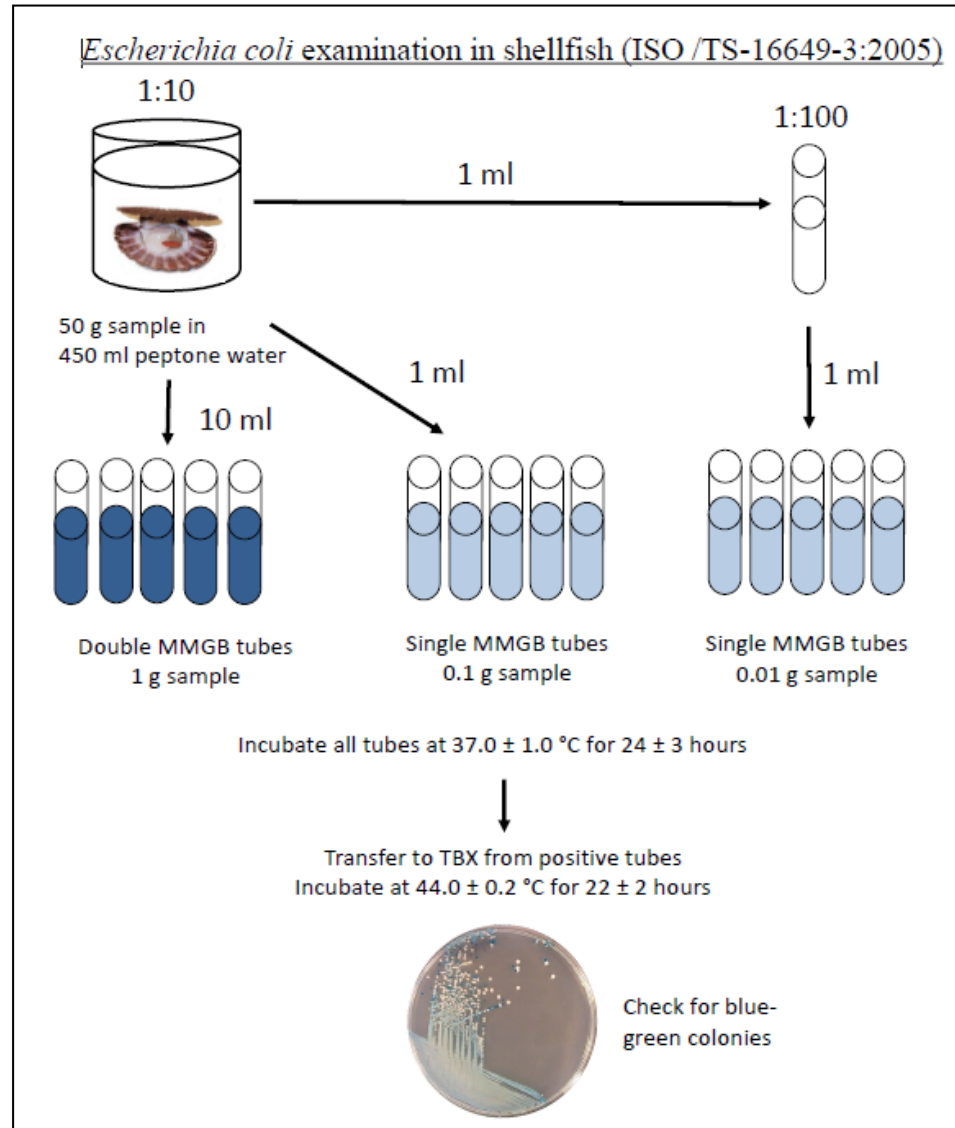




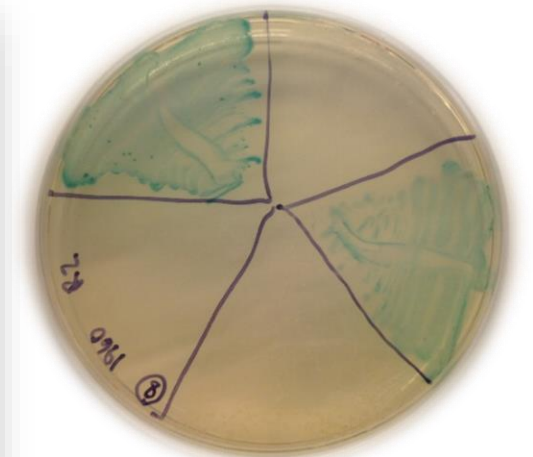
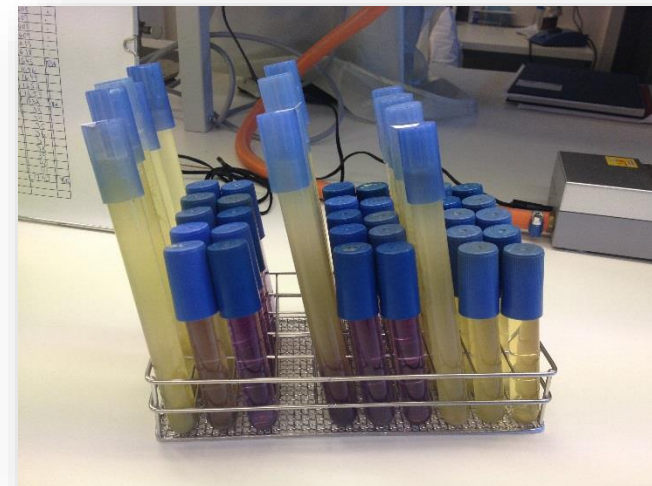
Norwegian Food Safety
Authority



Detection of *E. coli*, *Salmonella*, *Norovirus* and Marine bio-toxins



Norovirus and marine bio-toxines:
Norwegian University of Life
Sciences (NMBU), Oslo



Results 2021, 540 samples

- *E. coli* \leq 230/100g 94 %
 - *E. coli* $>$ 230/100g 6 %
 - Highest value 9 200/100 g
 - *Salmonella* not detected
-
- In addition heavy metals and persistent organic pollutants



E. coli



Co-variance with enterococci
STEC prevalence
(+ *E.coli* in sewage)

Aeromonas sp.

Klebsiella pneumoniae



Human
pathogenic
vibrios

Enterococci

Fish pathogens
(NVI)





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Contents lists available at ScienceDirect

Food Control

journal homepage: www.elsevier.com/locate/foodcont



Time trends in the prevalence of *Escherichia coli* and enterococci in bivalves harvested in Norway during 2007–2012



Bjørn Tore Lunestad*, Sylvia Frantzen, Cecilie Smith Svanevik, Irja Sunde Roiha, Arne Duinker

National Institute of Nutrition and Seafood Research, P.O. Box 2029, Nordnes, 5817 Bergen, Norway

Highlights

- A weak positive correlation between enterococci and *Escherichia coli* were seen.
- There was a weak positive correlation between high counts of *E. coli*/enterococci and increased rainfall.





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Food Microbiology

Volume 84, December 2019, 103268



Isolation and characterisation of Shiga toxin-producing *Escherichia coli* from Norwegian bivalves

Carlota Cedillo Martin ^a, Cecilie Smith Svanevik ^a, Bjørn Tore Lunestad ^a, Camilla Sekse ^b, Gro S. Johannessen ^b  



n = 269

Screened for *stx*, *eae*, O26, O103, O111, O145 and O157
(ISO TS 13136)

19 (7%) samples had *stx* and *eae* genes

Presumptive STEC found in three samples

WGS gave one *stx*_{2i} O9:H19 and one *stx*_{2g} O96:H19

Neither of these were positive for *eae* or *ehx*

Results suggest low prevalence of STEC in Norwegian bivalves

Thank you for listening!

