

LOSS AND MORTALITY RATES IN SALMON AQUACULTURE

◀Kontali analyse 9▶

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AGENDA



INTRODUCTION

Background Kontali Estimates

Models

Global Production

LOSS

Global Annual loss

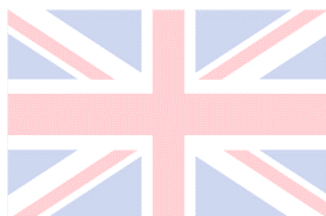
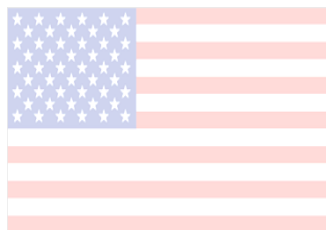
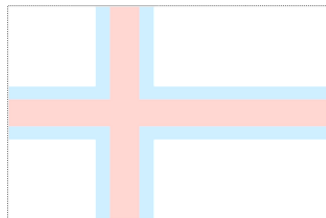
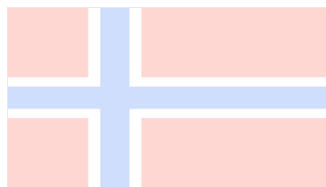
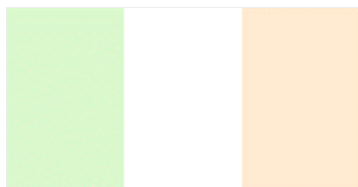
Loss per. Generation

MORTALITY

Qualitative data vs. Quantative data



Kontali production models



- Atlantic Salmon
- Large Rainbow trout
- Coho
- Atlantic salmon
 - 6 Generations
 - Monthly updates on 42 generations
- Large Rainbow trout
 - 6 generations
 - Monthly updates on 12 Generations
- Coho
 - 2 generations

Models-outgrowing

Monthly

Stock ultimo

Harvest

Loss

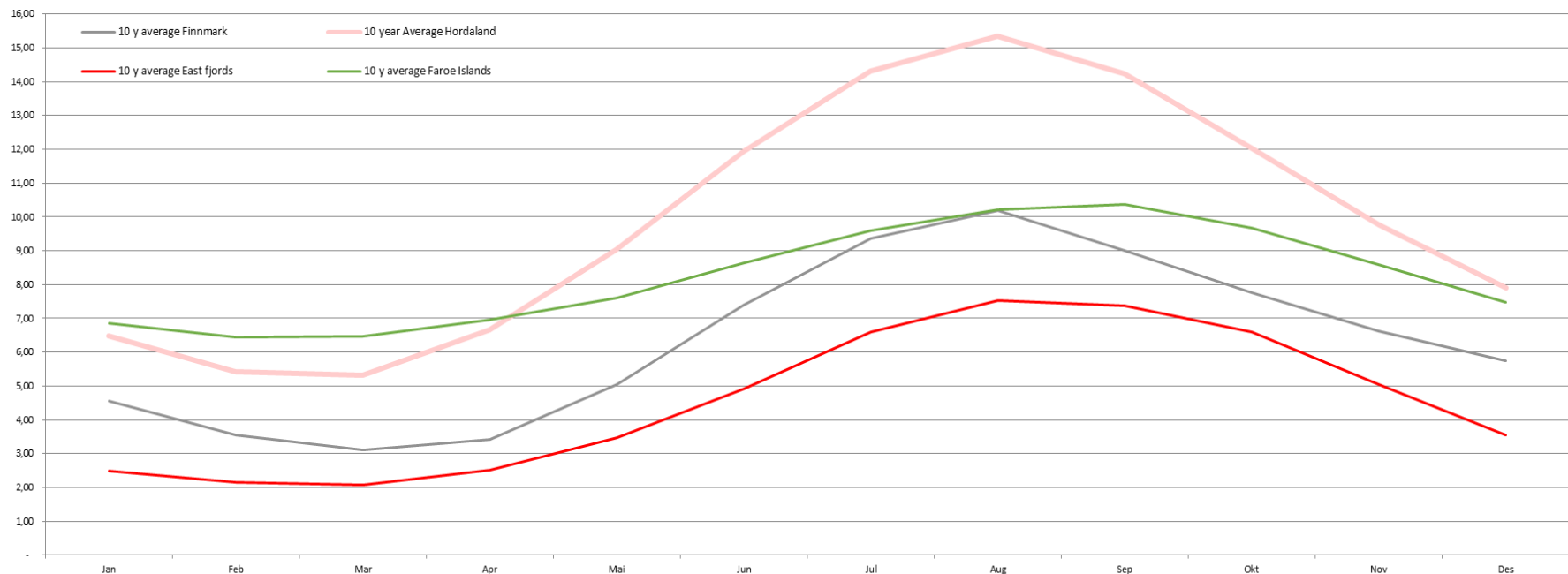
Growth

Feed Consumption

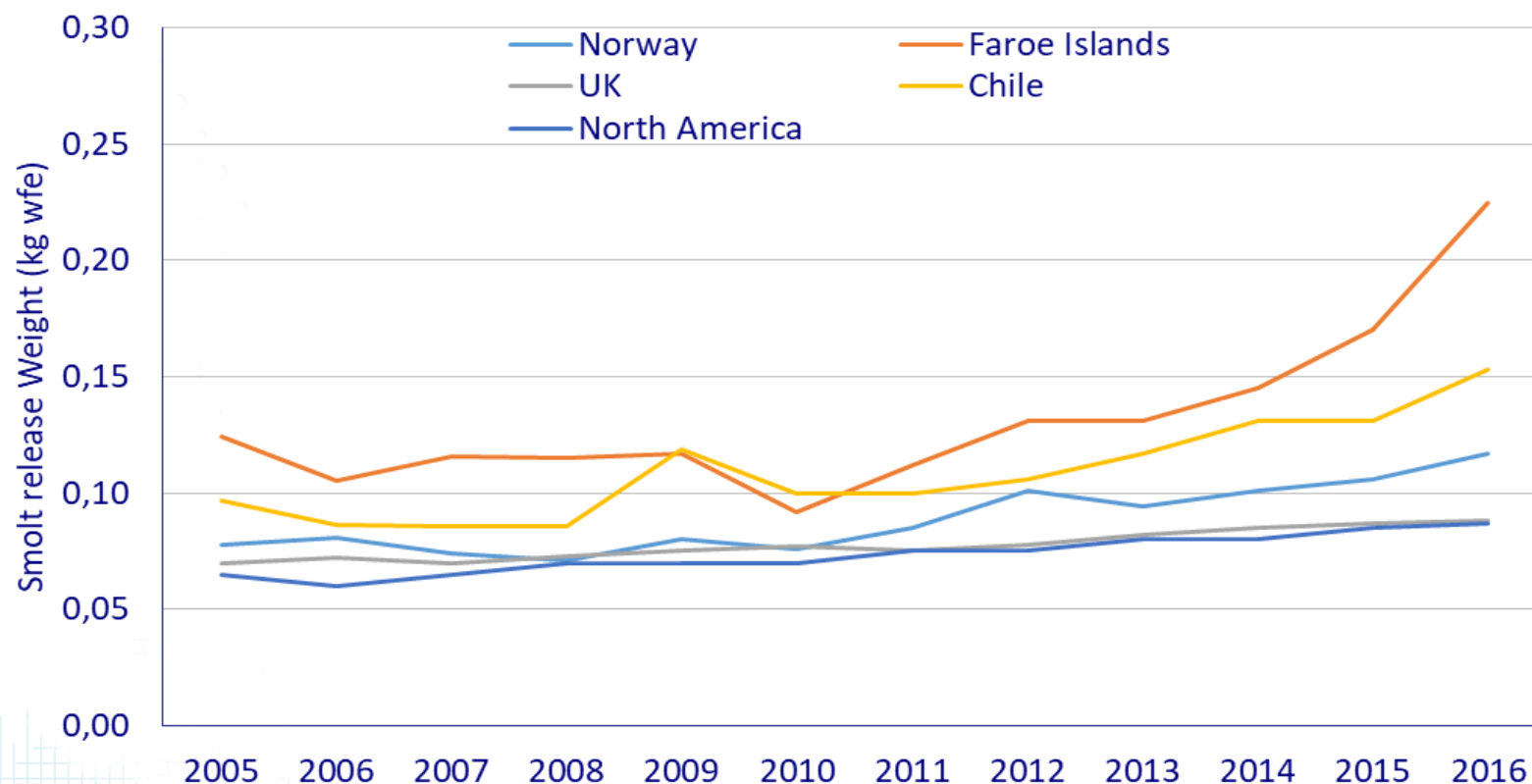
In 25 years more than 16 000 months of salmonid production

Differences within and between regions

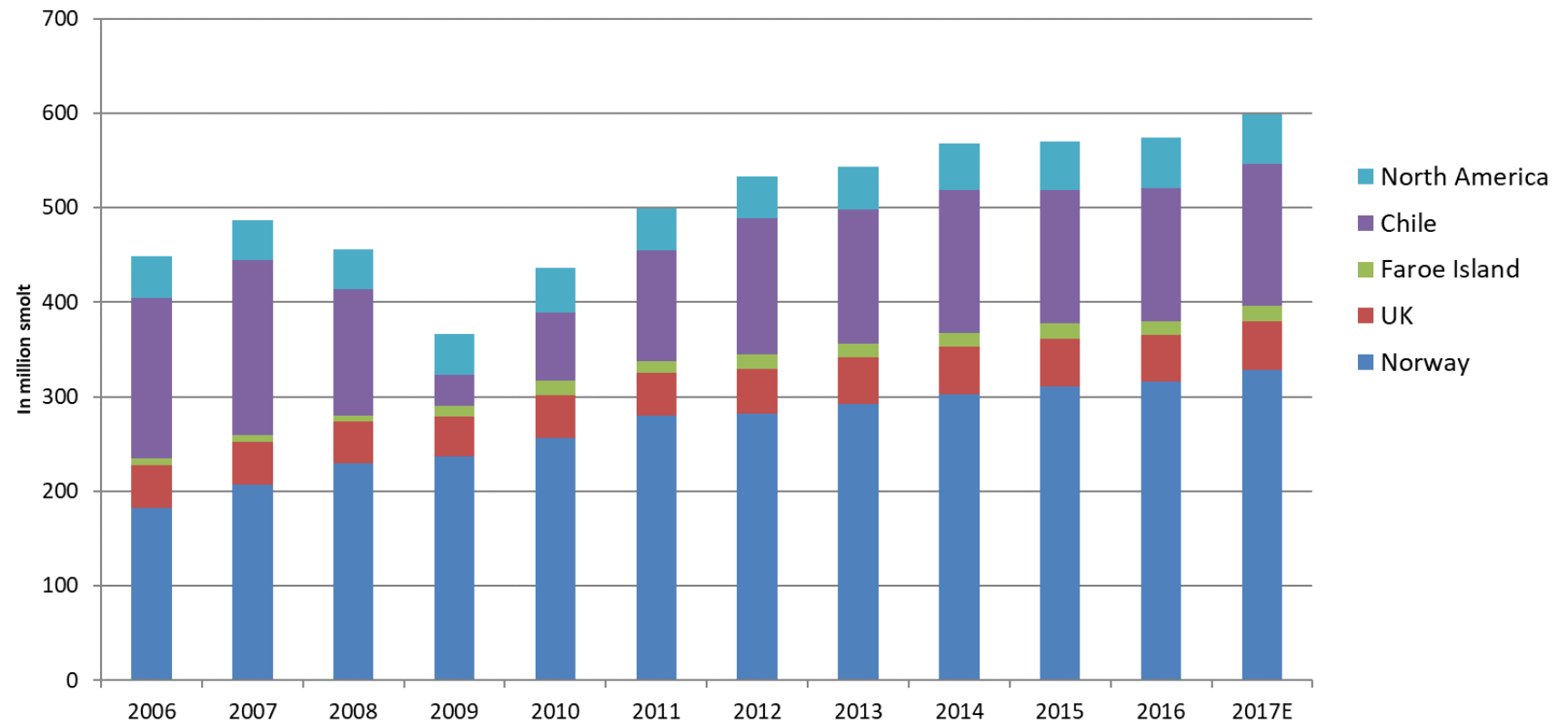
Iceland vs Norway North and South and the Faroe Islands



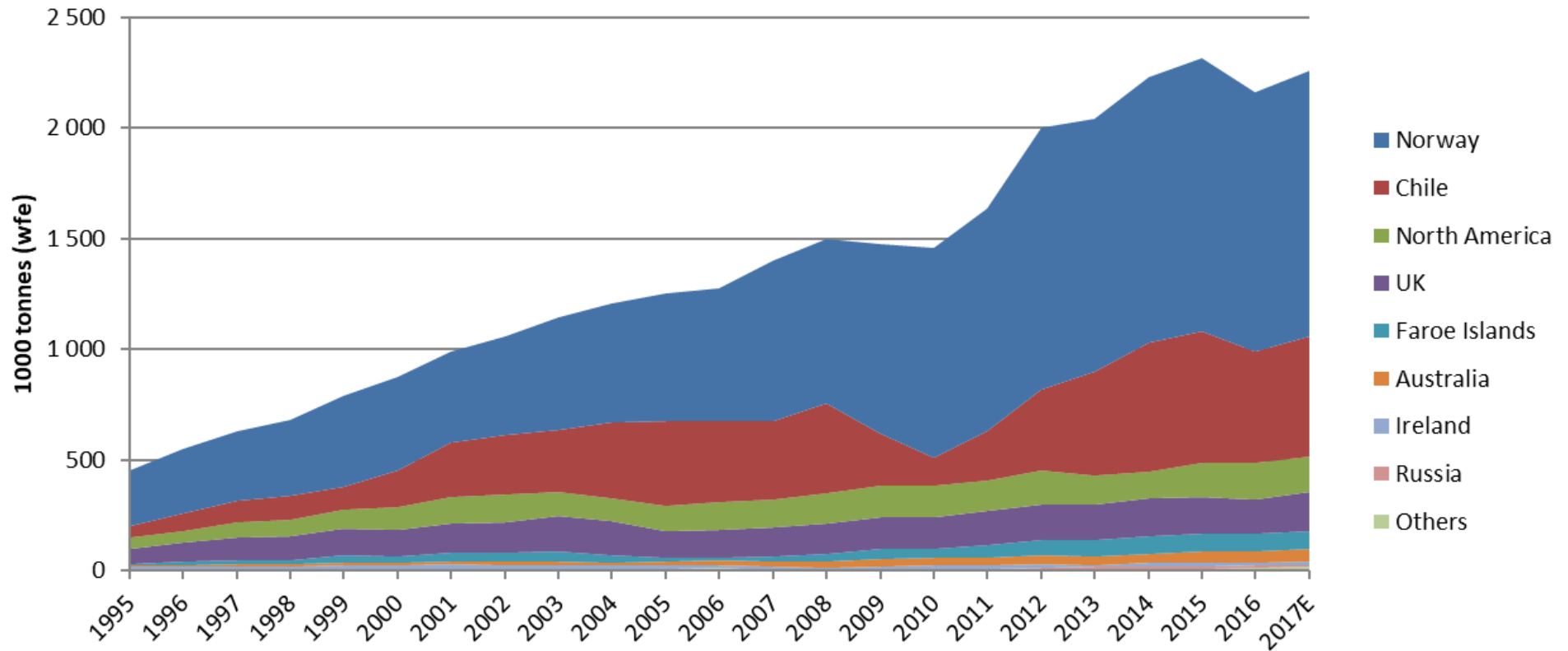
Development release weight



Smolt release



Global Harvest



Smolt release vs Harvest

SMOLT RELEASE

Annual Growth

Globally	2006-2016	2,5 %
Norway	2006-2016	5,1 %
Norway	2013-2016	2,8 %

HARVEST

Globally	2006-2017	5,3 %
Norway	2006-2017	6,5 %
Norway	2013-2017	1,2 %

LOSS



Loss on growing fish Number and weight of loss due to

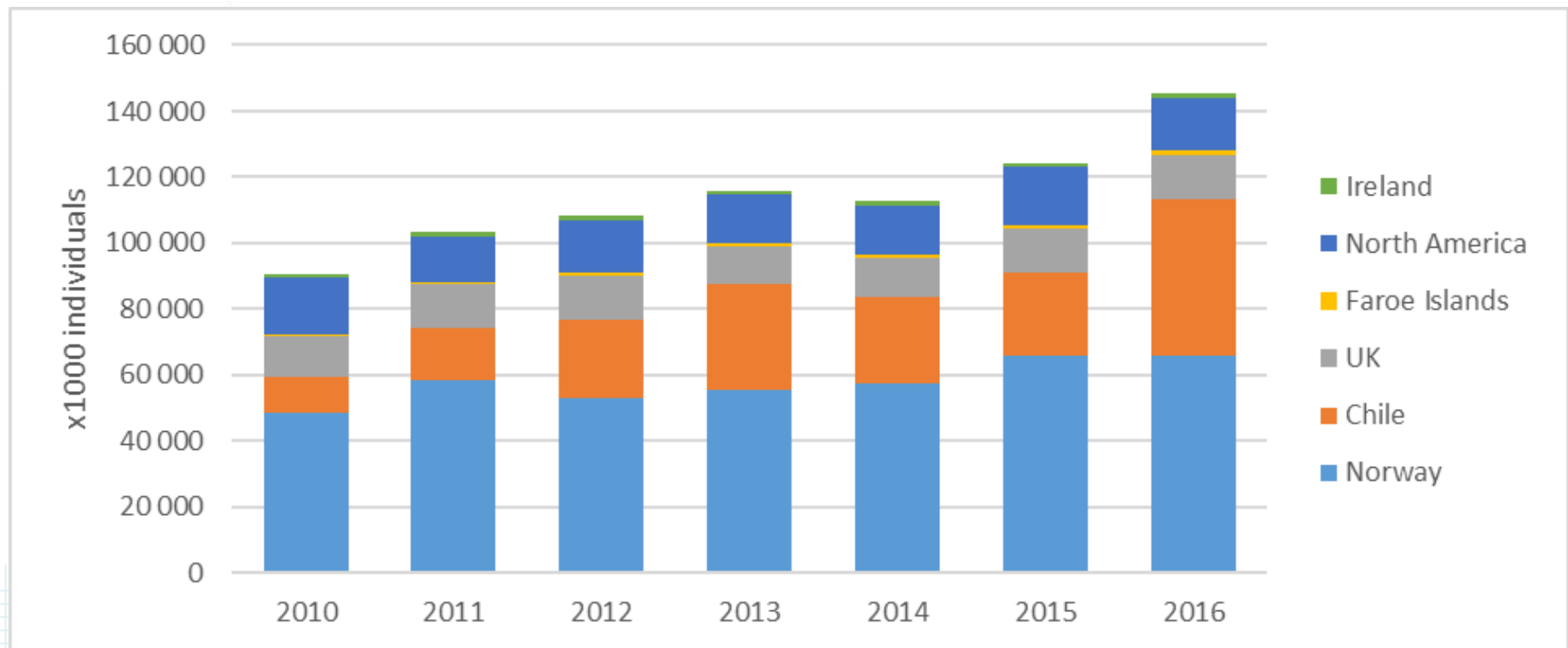
- mortality
- escape
- sorting when harvesting

Loss rate Number of lost or not accepted fish in % of total number released fish



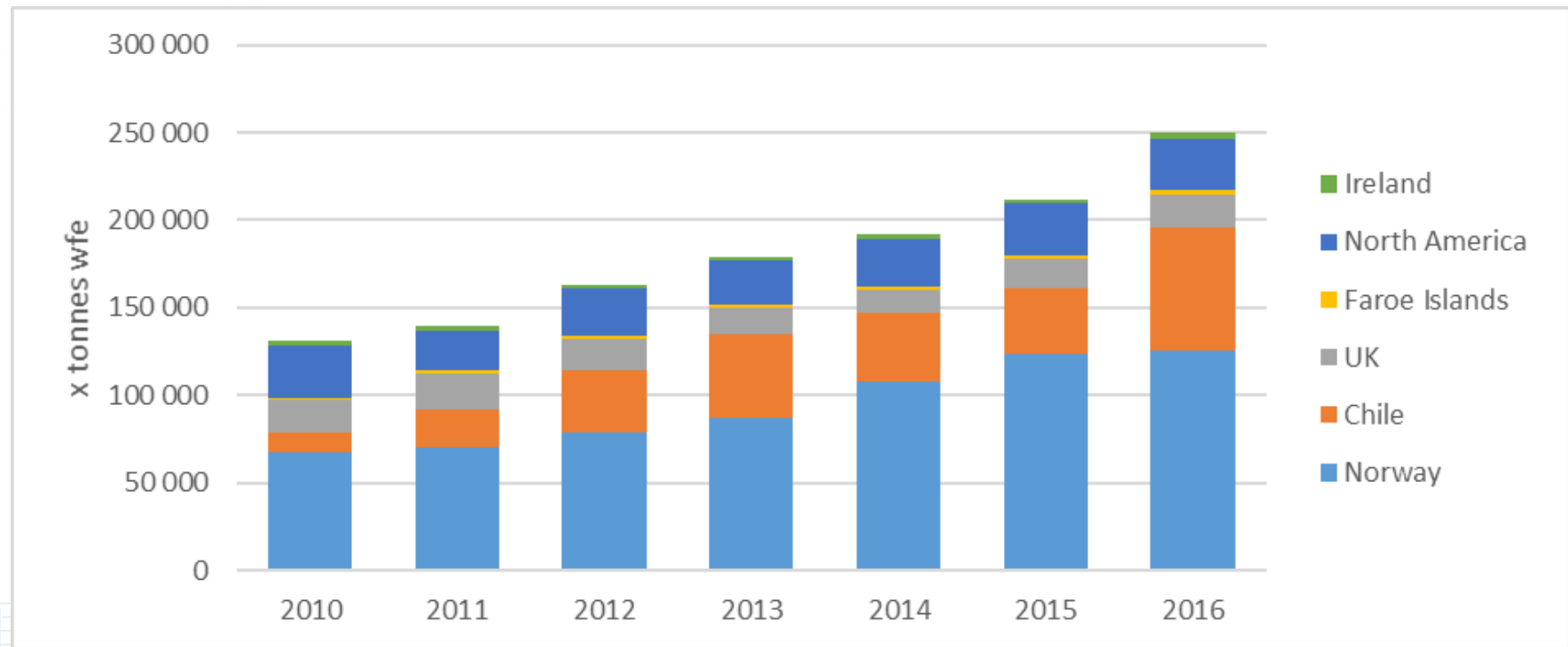
Loss development

Annual loss in numbers



Loss development

Annual loss in Biomass



Annual loss

Numbers vs Biomass

Annual development (2010-2016)

Loss in number of individuals

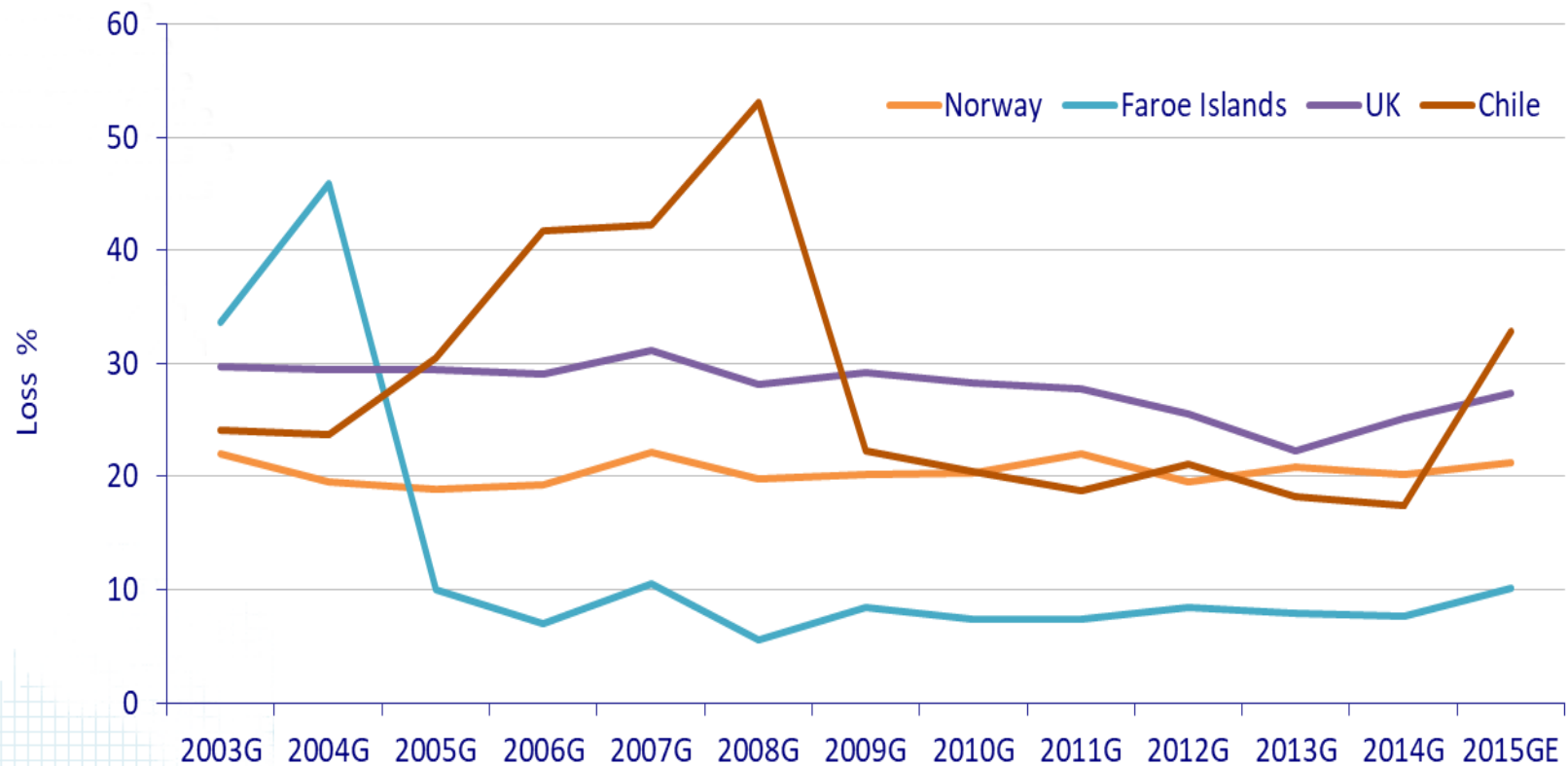
Globally	2010-2016	+ 8 %
Norway	2010-2016	+ 4 %

Loss in biomass tonnes wfe

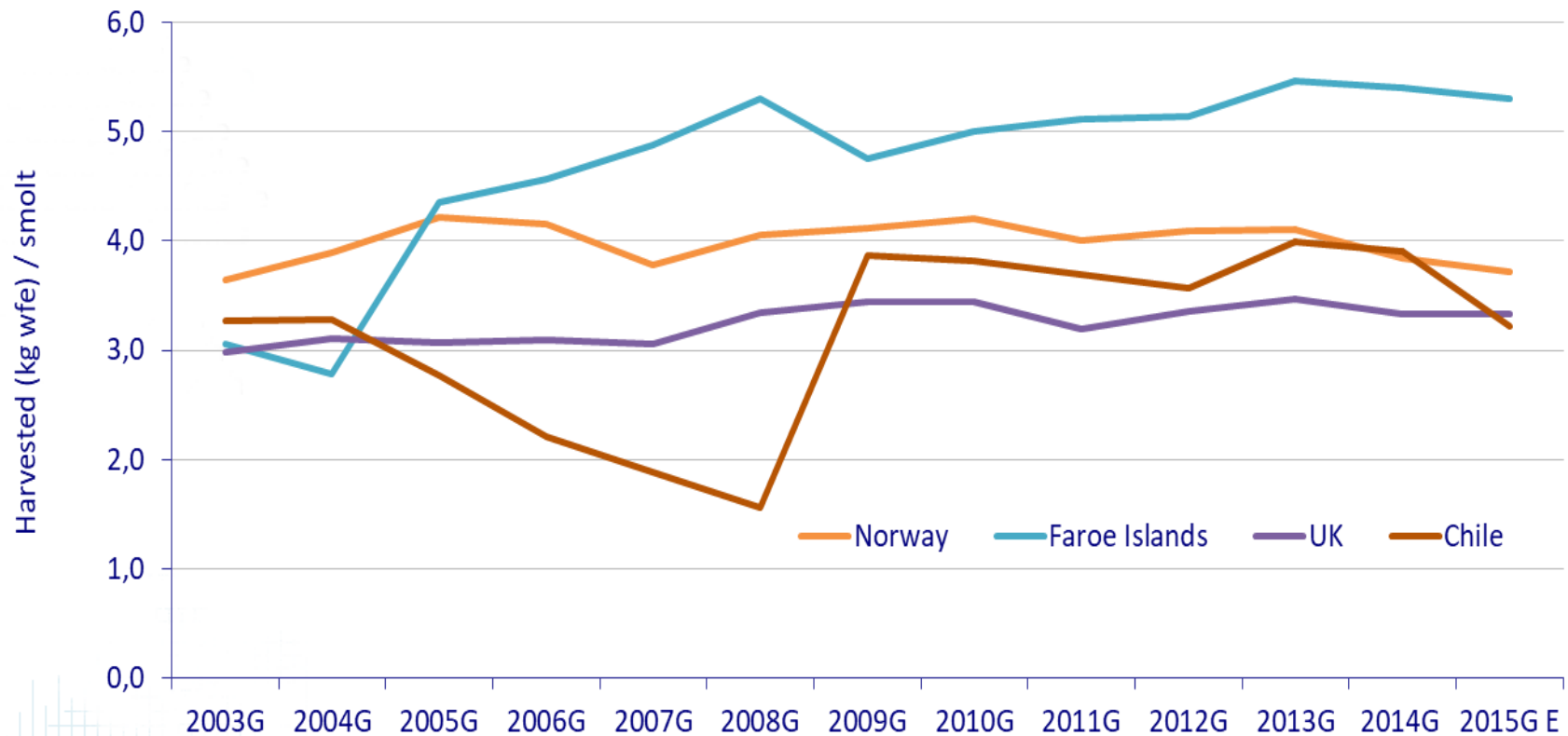
Globally	2010-2016	+ 11 %
Norway	2010-2016	+ 9 %

More of the released smolts are lost later in production, and Norway contributes most to this.

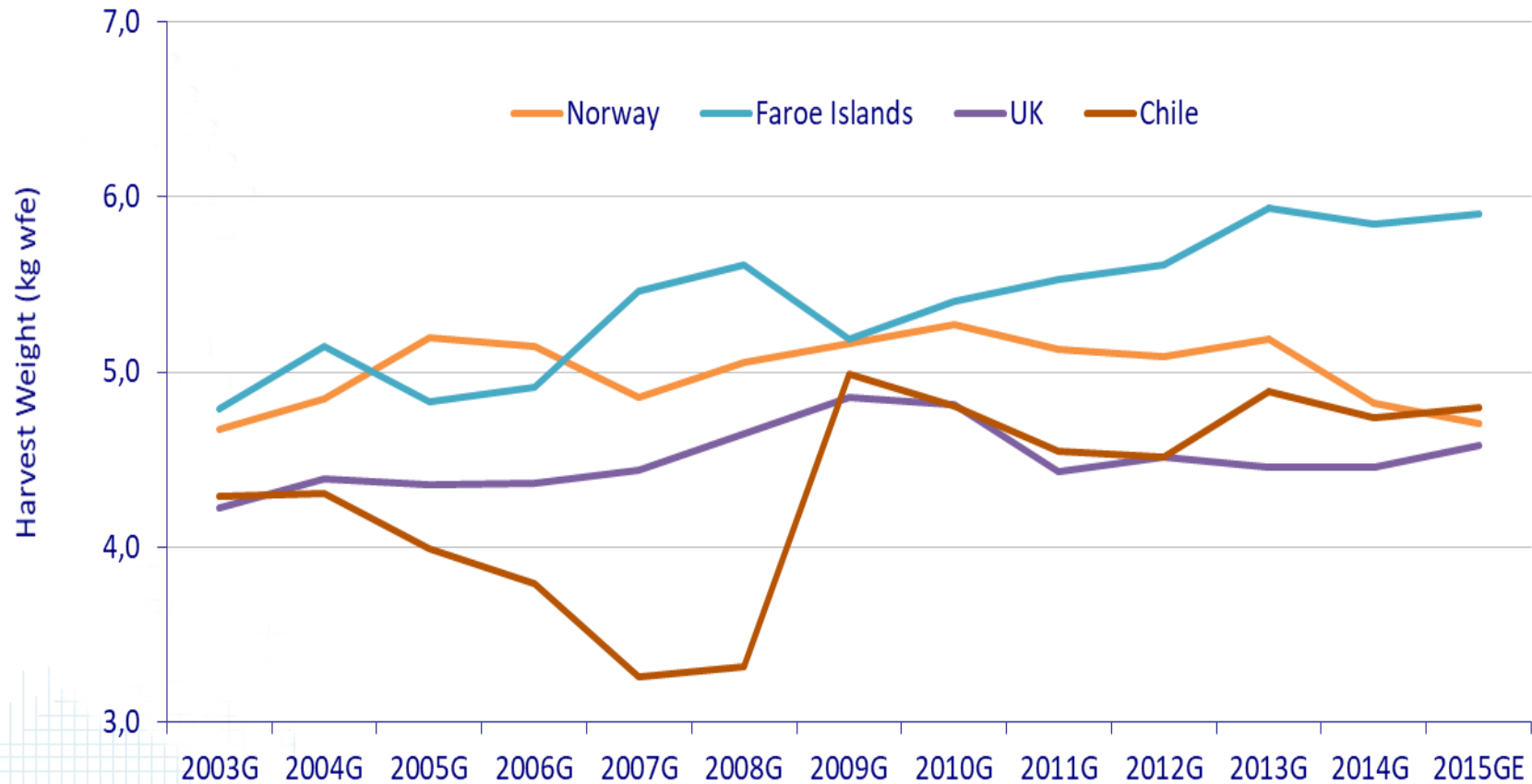
Loss on a generation level



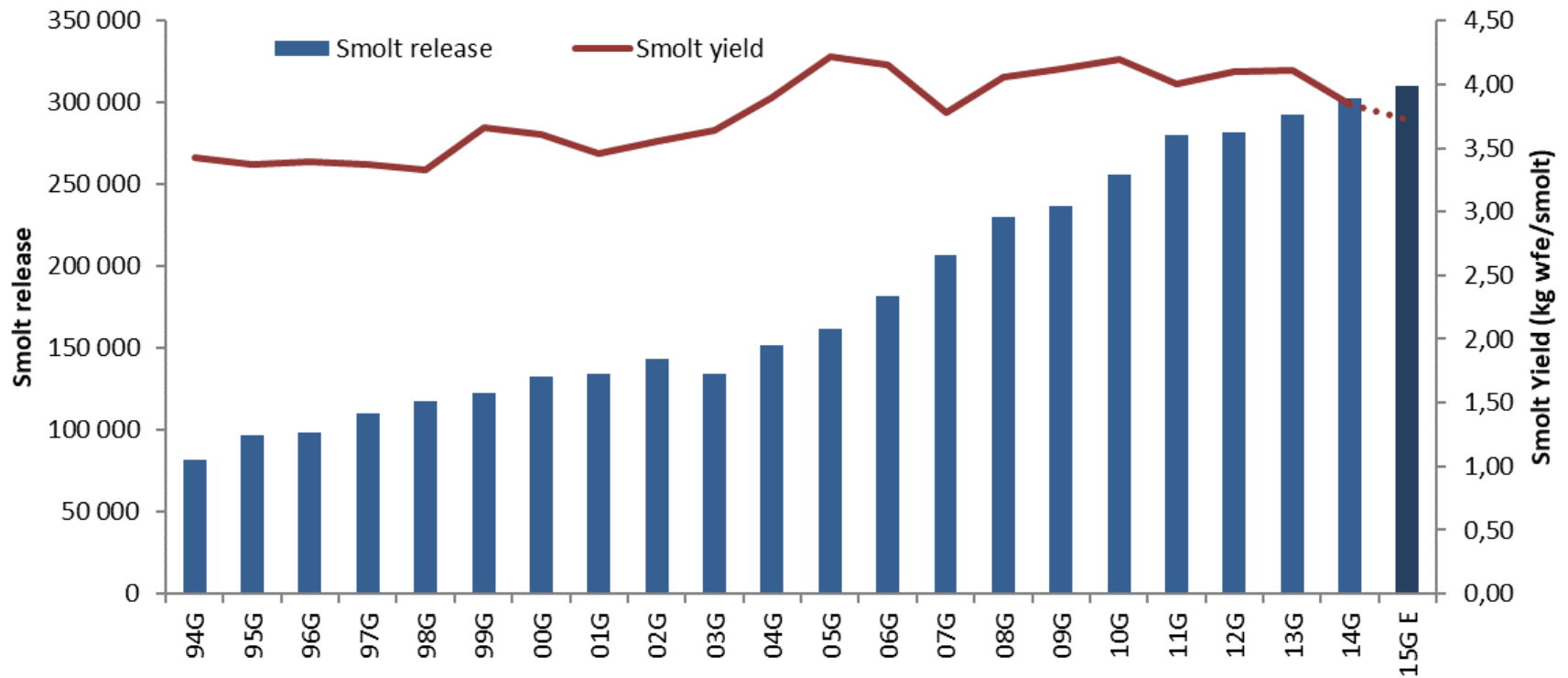
Loss on a generation level



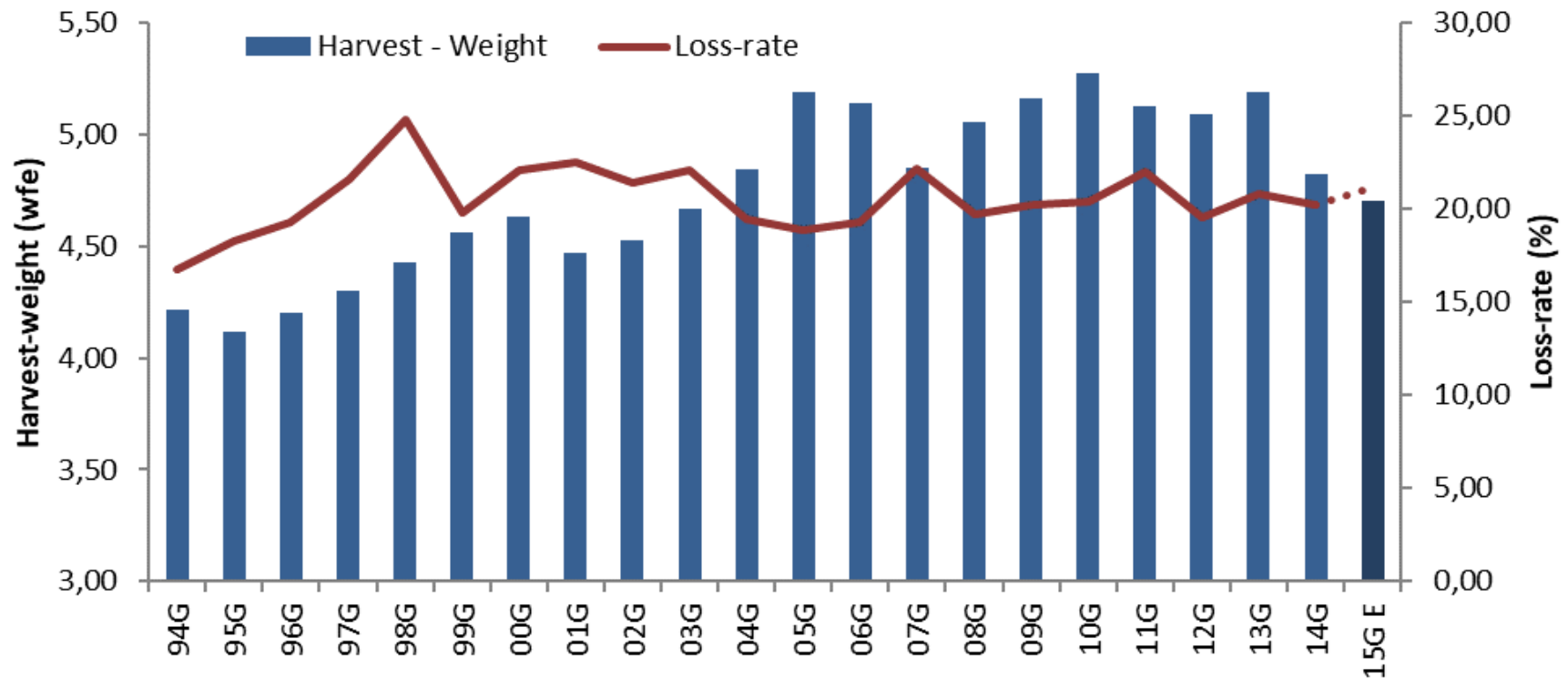
Loss on a generation level



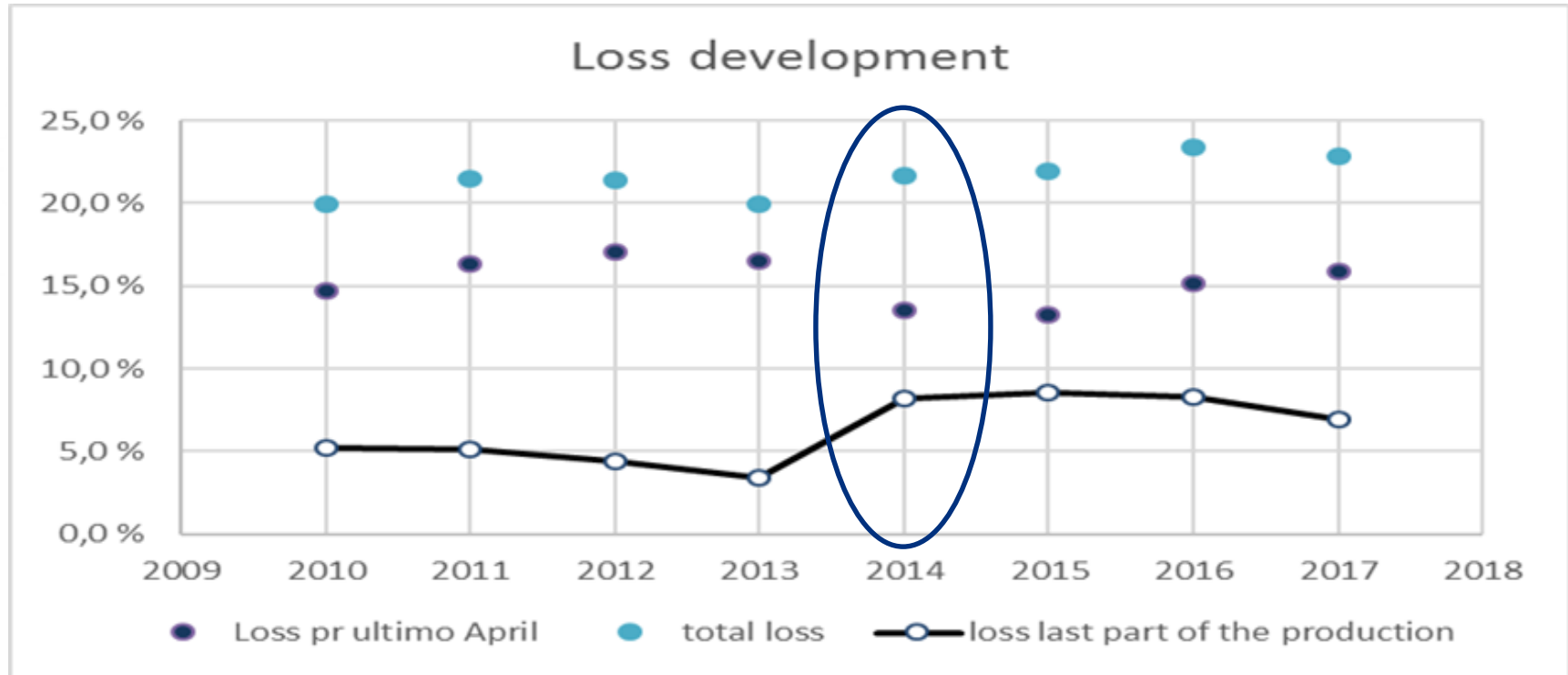
Loss on a generation level (Norway)



Loss on a generation level



Change in loss profile (ex. Norway S1)



Mortality



The interesting part....



Mortality rates on a global level

IPN,CMS,SEALICE,HSMI,ISA,SAV,SRS,MORITELLA, AGD.....



Summary

- Loss increase on an annual basis
 - More individuals
 - More Biomass
- Loss is more or less consistent on a Generation level
 - Increase in Smolt transfer with lower productivity
- More fish is lost later in production
 - Increase in average loss weight
- Decrease in average Harvest weight
- In total; low growth in global Harvest volumes
- The key to reduce mortality;
 - Quantify mortality causes on a national level
 - Independent bench mark of the industry suppliers «providing» improved fish health
- In total; better solutions, better decisions for all

Thank you

