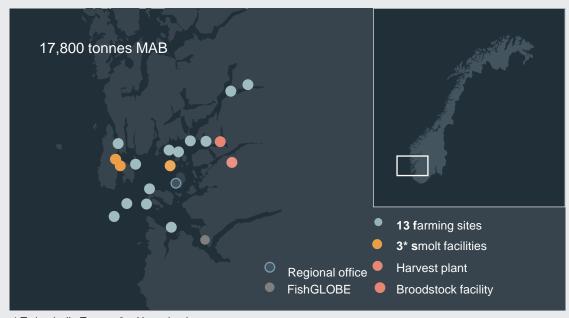
## Rogaland

Nina Grieg, Regional Director



## Rogaland in brief

- From roe to harvest
- Post-smolt front runner
- Employs 159 employees
- Organic capacity of 30,000 HOG
- Regional biological challenges
  - · Sea lice
  - PD
  - Winter ulcers
  - · CMS

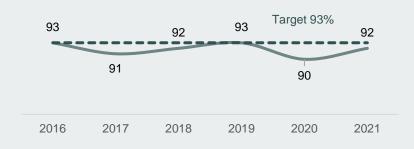


\* Tytlandsvik, Trosnavåg, Hognaland



## Improving biology...

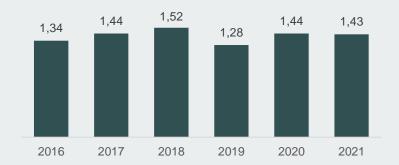
#### Survival %



#### **Natural variations in survival**

- Mortality mainly due to PD, sea live treatment and CMS
- Single incident treatment caused mortality in 2020

### eFCR



#### Falling trend in eFCR

- · Largely driven by the survival curve
- Higher average weight of smolt and harvested fish has increased FCR in sea



## ... and increasing volume

### Harvest weight increasing

- Effective production from postsmolt
- Less treatments and more feeding days

### Strong growth in harvest volume

- New licenses (1,560 MAB) introduced in 2019
- Tytlandsvik completed in 2019

## Average harvest weight

average, kg GWT



### Harvest volume 1,000 tonnes GWT





# Improvement initiatives proving results

- 2020 and first half of 2021 challenging due to single mortality events
- Biology improved significantly during second half of 2021
  - Post-smolt main contributor
- Expect post-smolt to contribute to more stable biology going forward

## Farming cost development NOK/kg





## **Key initiatives and priorities**

2018 2019 2020 2021 2022 2023 2024 2025 2026

Post-smolt

**Integrated Operation Center** 

Preventive sea lice measures

When to expect effect on biology

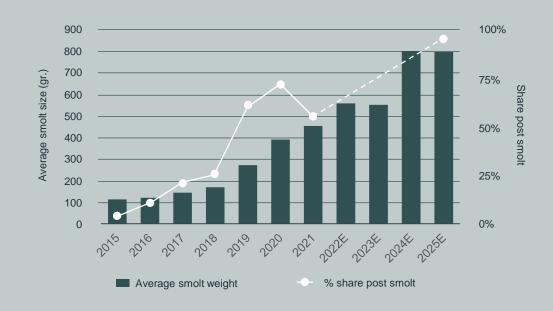
Ambition of 35-40,000 tonnes in 2026



## Larger smolt – a game changer...

- Improve biological control, fish welfare and survival
- Reducing time in sea from 18 to less than 12 months
  - Minimize bio exposure
- Increase flexibility and allow for more efficient production cycle
- Reduce wild-salmon interactions
- We are only halfway there
  - the major impacts are yet to come

## Rogaland smolt release





## ... Rogaland leading the way

### **Tytlandsvik Aqua**

- Concluded expansion to 6,000 tonnes
- Stable delivery of high quality postsmolt
- Cooperation with Bremnes Seashore and Vest Havbruk



## **Årdal Aqua**

- Planned 4,500 tonnes post-smolt, with potential for grow-out
- Construction commencing in 2022
- In cooperation with Omfar and Vest Havbruk
- Based on same design as Tytlandsvik

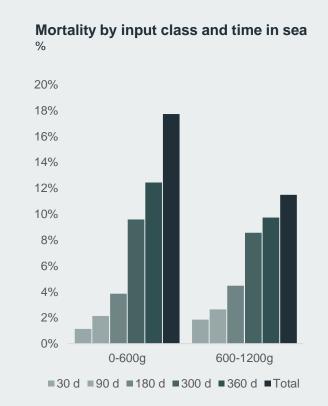


	Current capacity*	Planned expansions*	Optional expansions	Completion year (concluded / optional)	% volume*	% ownership**
Trosnavåg	1,200	0	+600	25/26	100%	100%
Tytlandsvik	2,250	+750	+1,500	24/26	50%	33%
Årdal Aqua	0	+4,500	+1,500	24/25	100 %	37%
Fish Globe	900	0	0	2022	100 %	0%
Total capacity	4,350	+5,250	+3,600			
Well positioned with land capacity						



## Proving promising results

- Stable production of post-smolt up to 1 kg
- 18 groups of post smolt > 600g harvested so far
- Post-smolt of 900g transferred to sea end March '21
  - Average harvest weight of 4.8kg after 8 months
- Strong indications of improved biological control compared to standard smolt weight





## Exploring new solutions – smolt at sea

- · Unique closed containment system in sea
- Currently two globes in production in Rogaland, each with a size of 3,500 m3
- Promising results:
  - 6 groups of post-smolt produced
  - · Zero lice treatment
  - Low energy requirement < 1kwh pr kilo fish produced</li>
  - Some mortality challenges caused by winter ulcers
- Next Seafood established as joint venture to develop the technology further and adapt it to the grow-out salmon phase





## Key initiatives to ensure growth and fish welfare

#### **Preventive measures**

#### Post-smolt

Reduced time in sea lower exposure to sea lice

### Use of cleaner fish

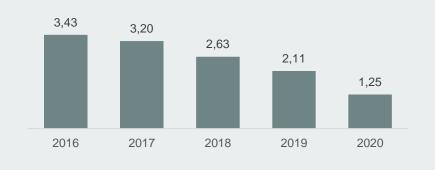
40% of the pens harvested in Rogaland in 2021 never needed any sea lice treatments

Target <1 sea lice treatment per generation

## Strong reduction in sea lice treatments

## Average # of lice treatments per fish lifecycle

Number, ex. active feed





## Ambition of 35-40,000 tonnes in 2026

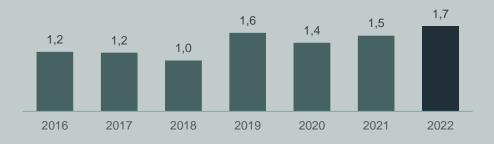
- Current production capacity of 30,000 tonnes
  - On schedule to reach full utilization in 2022
  - Post smolt managing risk and higher survival
  - Shorter production cycle and turnaround time of sites
  - Improved feeding through Operational Central
- Add 4,000 tonnes post-smolt capacity by 2025
  - Upside potential through multiplication effect
- Add 1,000 tonnes through other growth investments
  - Possible expansions in traffic light, Fish Globe, Blue Farm, post-smolt

## Harvest volume

1000 tonnes GWT



## Harvest volume per MAB capacity







Capital Markets Day 2022