

# From Icy Depths to Dinner Plates: Decoding Atlantic Salmon's Growth Factors

By: Glenn Krossøy, Hanne Jacobsen, Maren Myklebust, Jonas Jakobsen & Thomas Hille

## Aim

Water temperature and phosphorus is shown to be important in terms of fish health. The aim of this study was to determine if these factors also promote fish growth in terms of length and mass.



## Method

- The diets were designed to have either high or low levels of phosphorus (HP/LP)
- Firstly, fish were kept in **FW at 13°C** and fed diets containing either HP or LP.
- Secondly, fish were divided and transferred to **SW at either 10 – or 16 °C**, no changes in feed.
- Lastly, fish were individually marked, transferred to **new tanks at 8 °C** and fed the same diets.
- Weight and length were recorded, growth and body mass were calculated.

Day 14  
Experimental feed:

Day 98:  
vaccination

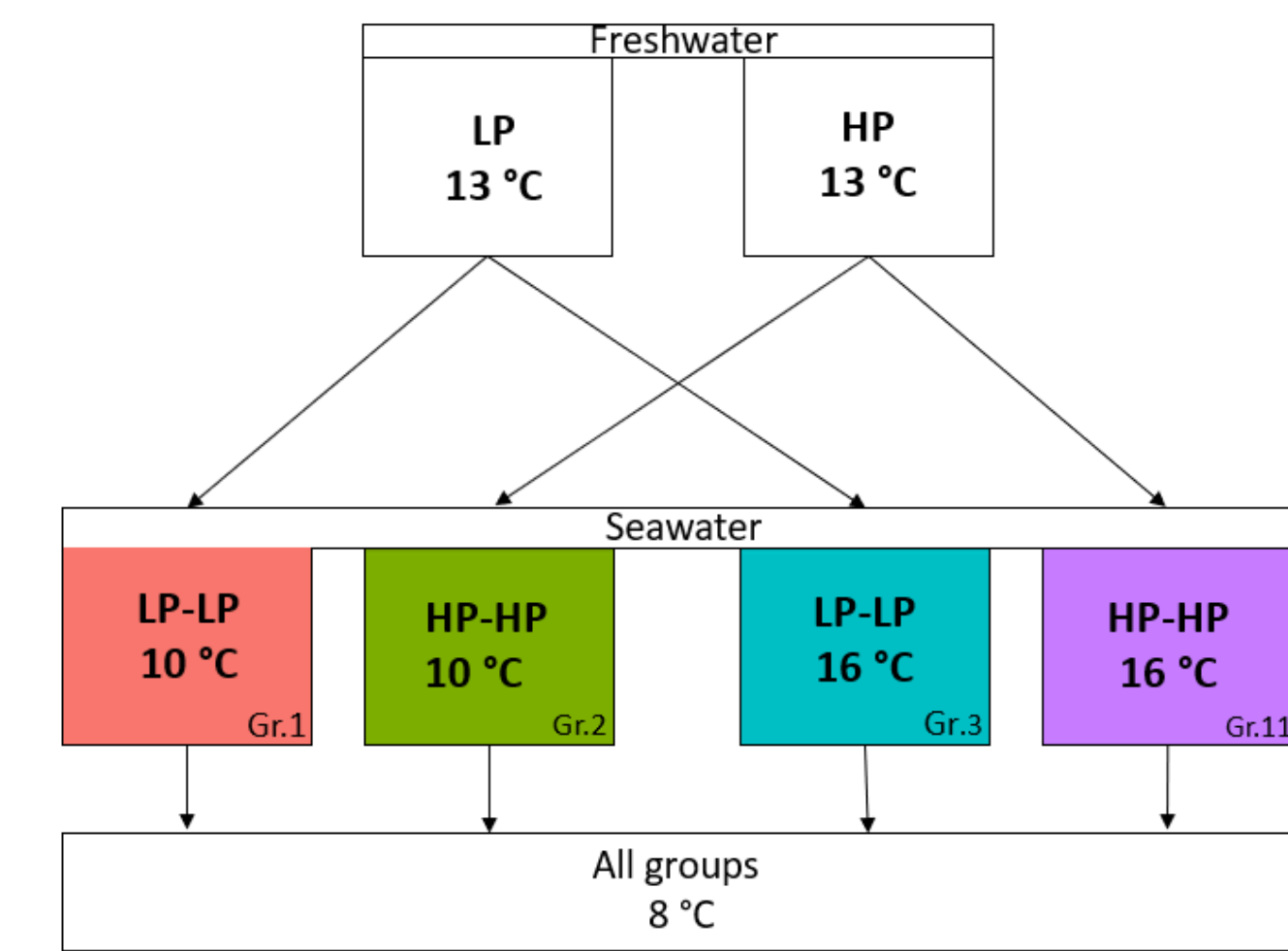
Day 156:  
Sea transfer +  
divided into groups

Day 266:  
PIT tagged

Day 278:  
Tank transfer

Day:  
Termination

Experimental design and environmental conditions



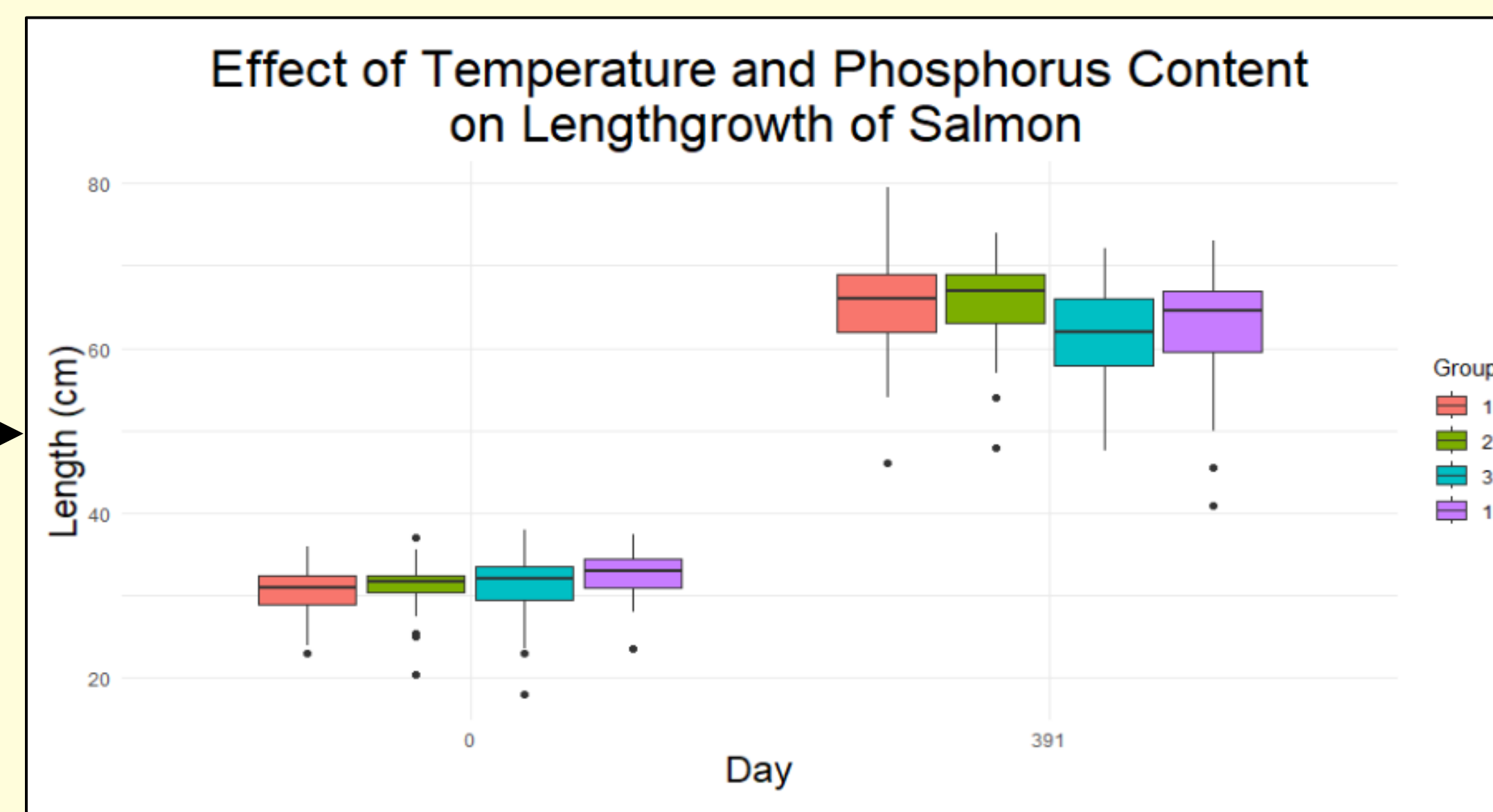
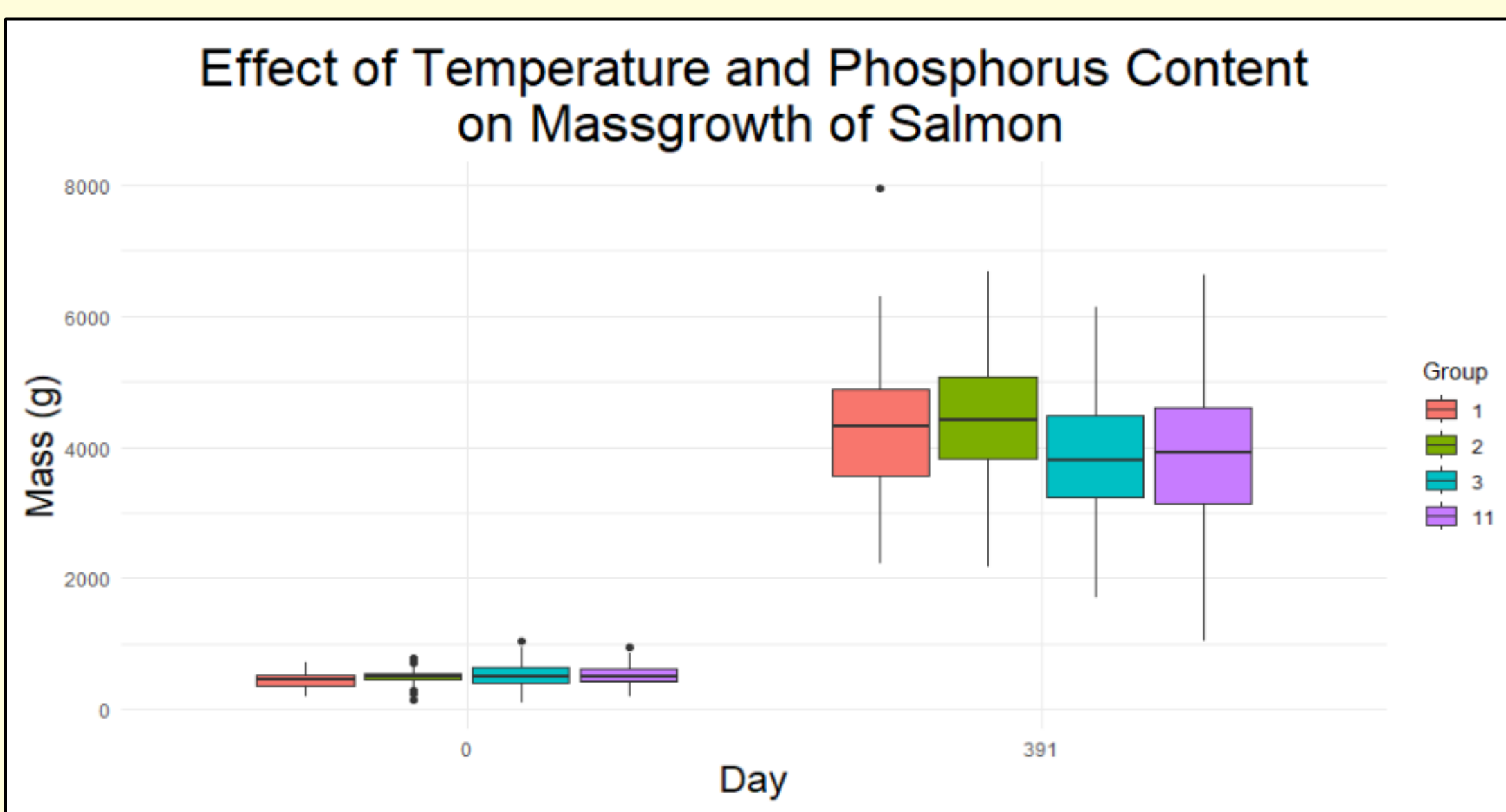
## Result

### Mass-growth

- 10°C promotes greater mass gain over 391 days in general, compared to 16°C.
- High phosphorus level at 10°C (Group 2) yields the highest mass increase.
- Overall, high phosphorus generally results in heavier fish at both temperatures.

### Length-growth

- 10°C supports greater length growth compared to 16°C.
- Phosphorus content at 10°C doesn't significantly affect length growth.
- Low phosphorus at 16°C results in slower growth.



UNIVERSITY OF BERGEN  
Faculty of Mathematics and Natural Sciences