

NEFROKALSIÑOSE

HOS LAKSESMOLT

NEFROSMOLT

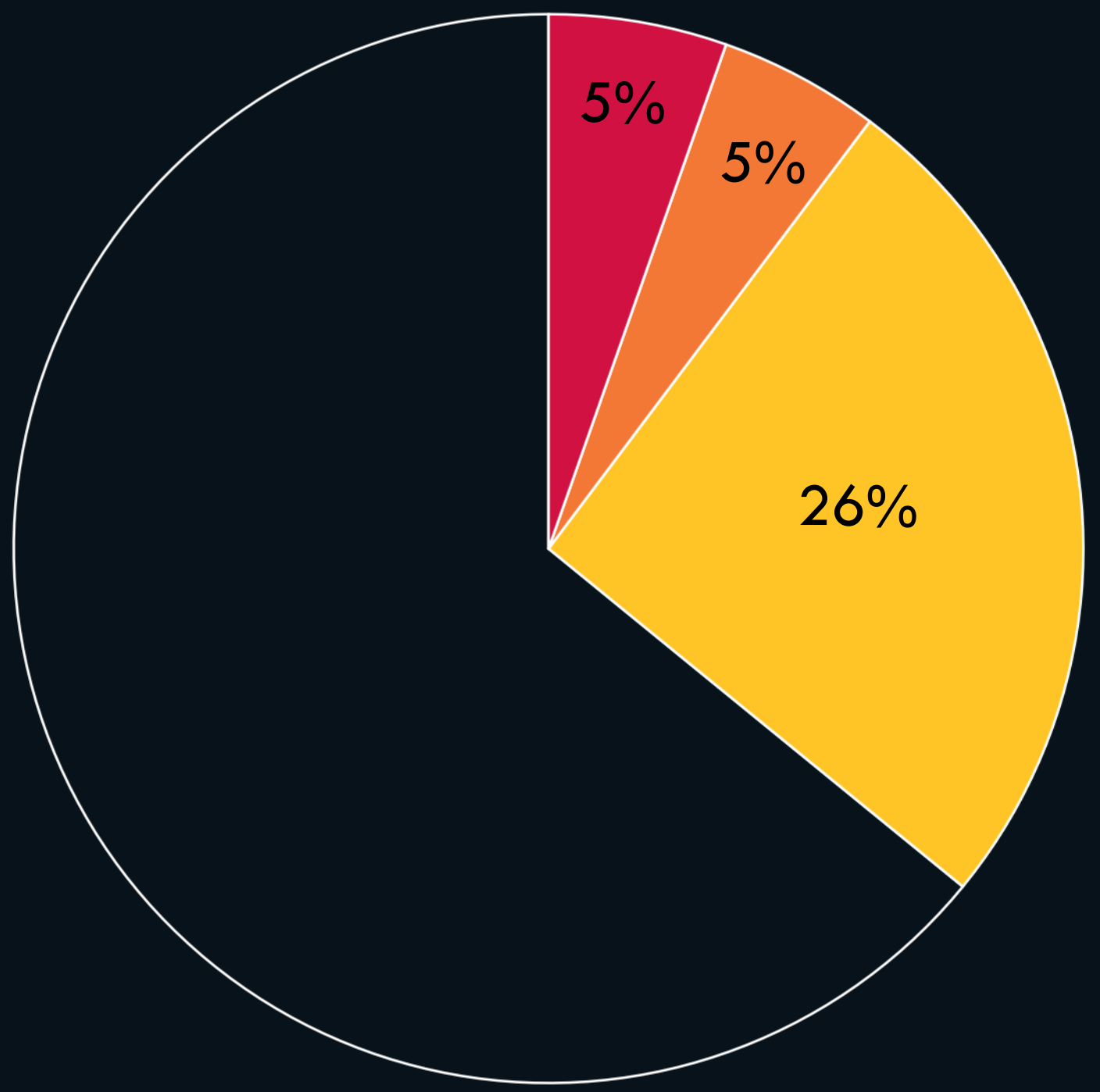
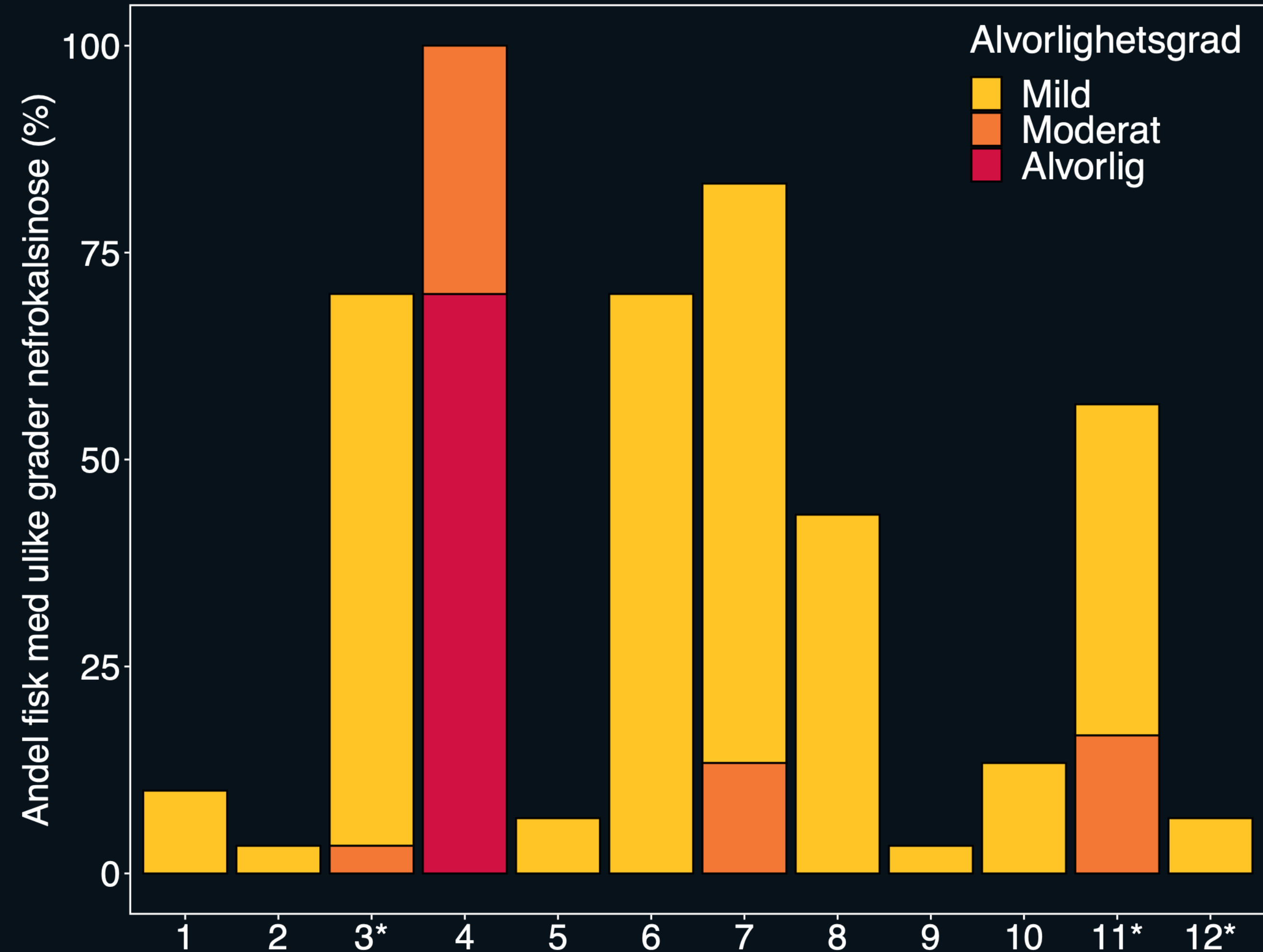


FHF 901587 - Nefrokalsinose hos laksesmolt: En kartleggingsu

MÅL

- Å kartlegge forekomsten og alvorlighetsgraden av nefrokalsinose og HSS i oppdrettslaks i Midt-Norge, og undersøke om nefrokalsinose fører til økt risiko for HSS.
- Å identifisere sannsynlige årsaker eller faktorer som spiller inn ved utvikling av nefrokalsinose og/eller HSS.
- Å implementere tiltak i anlegg med høy prevalens av nefrokalsinose, og følge opp disse tiltakene med påfølgende evaluering.

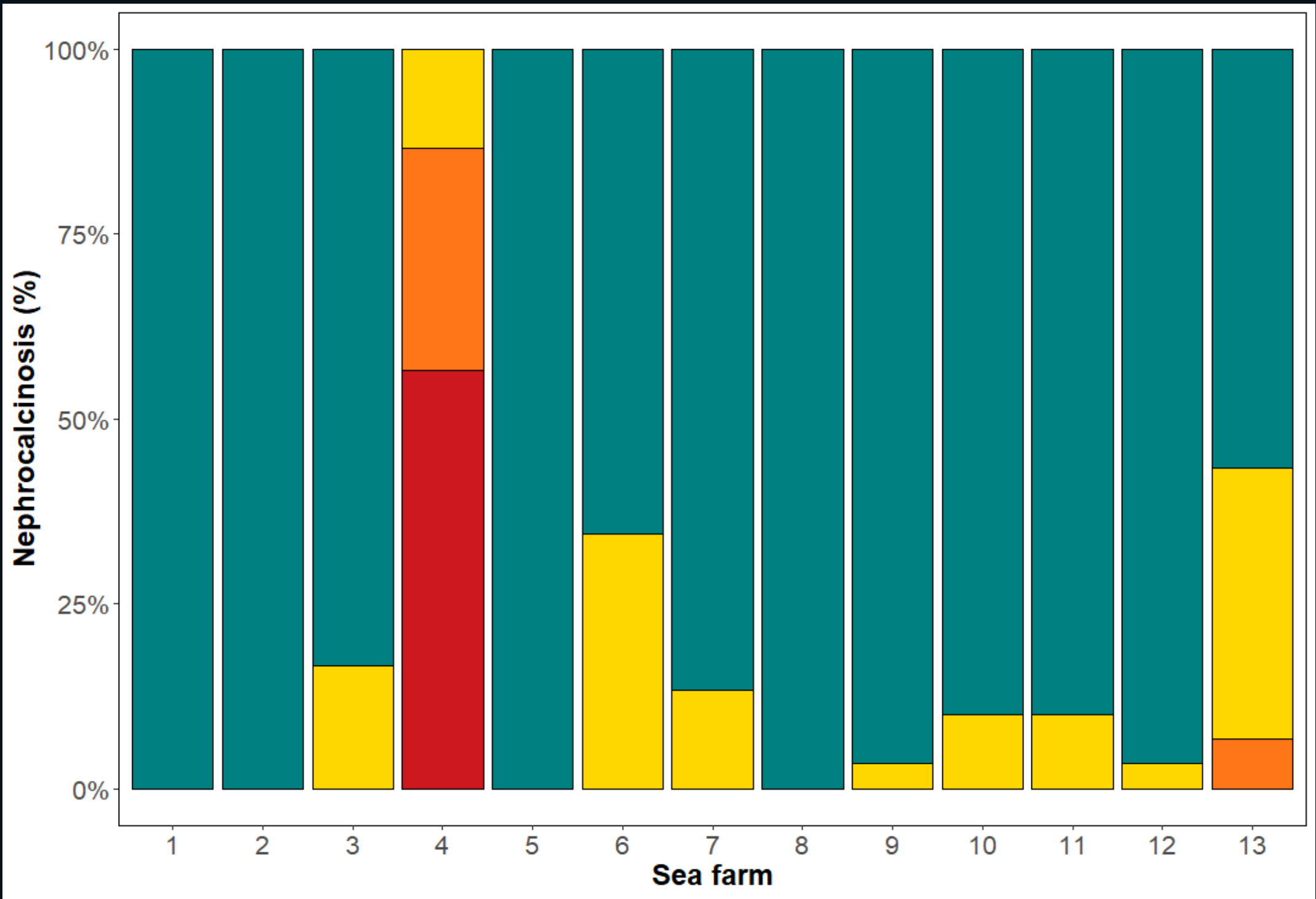
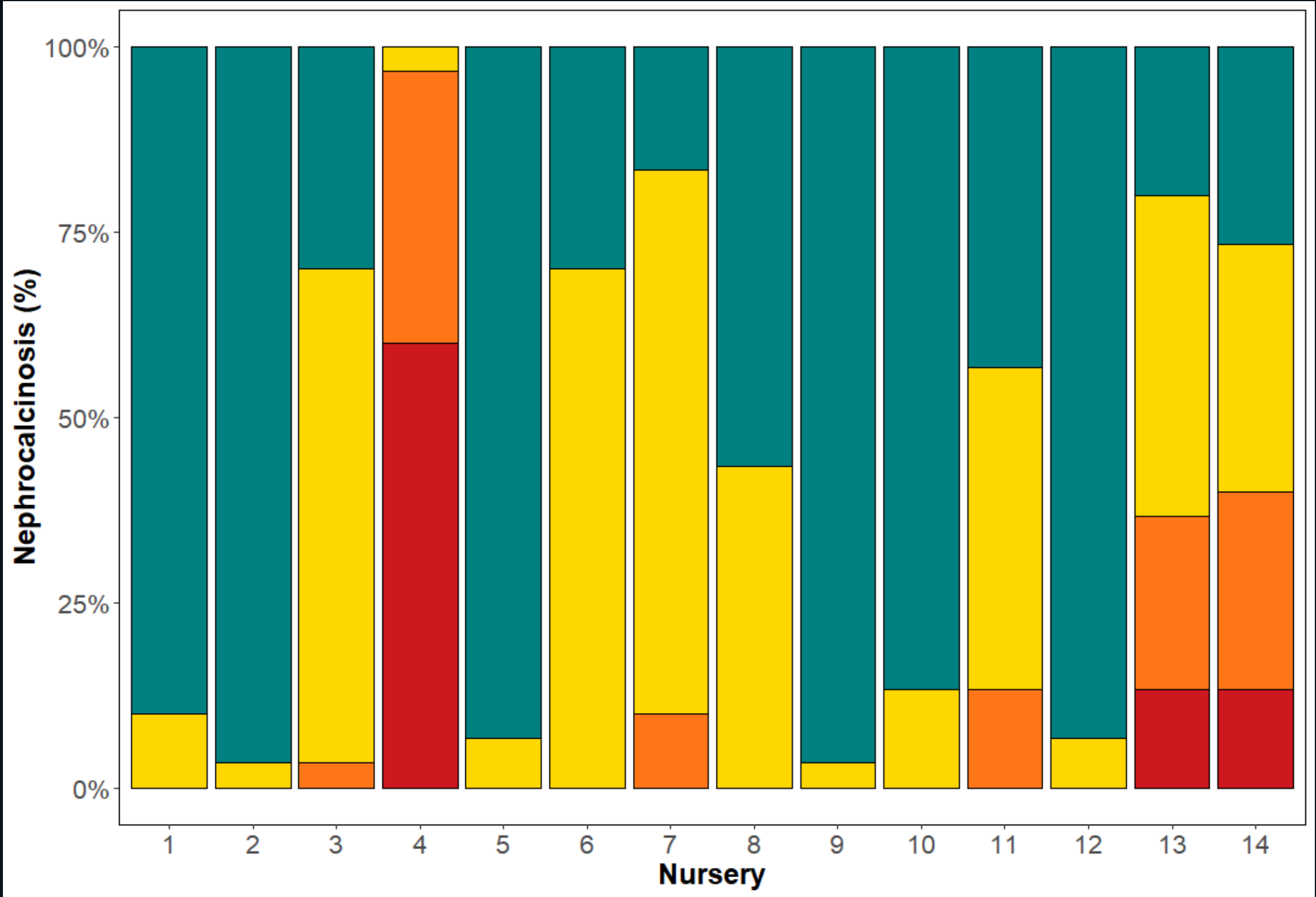
Største andel fisk med nefrokalsinose hadde mild grad



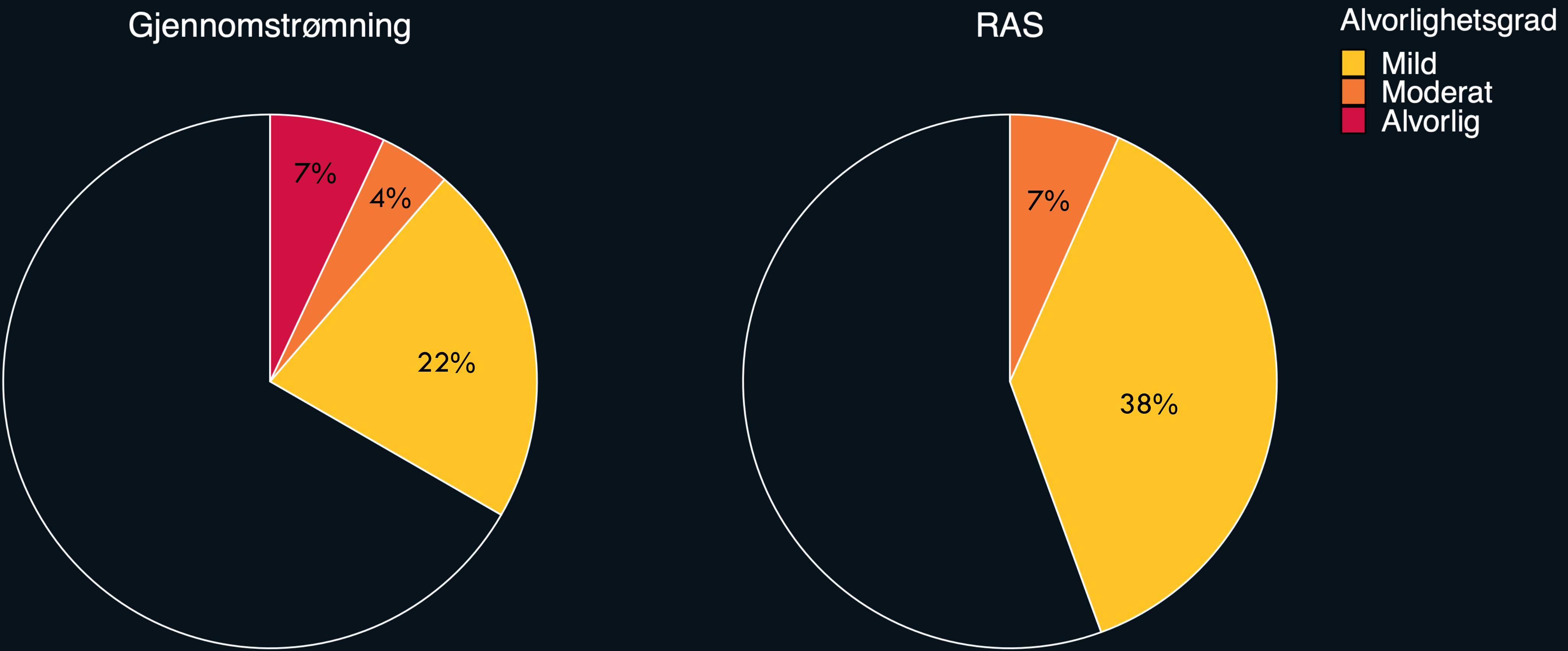
Største andel fisk med nefrokalsinose hadde mild grad

Alvorlighetsgrad

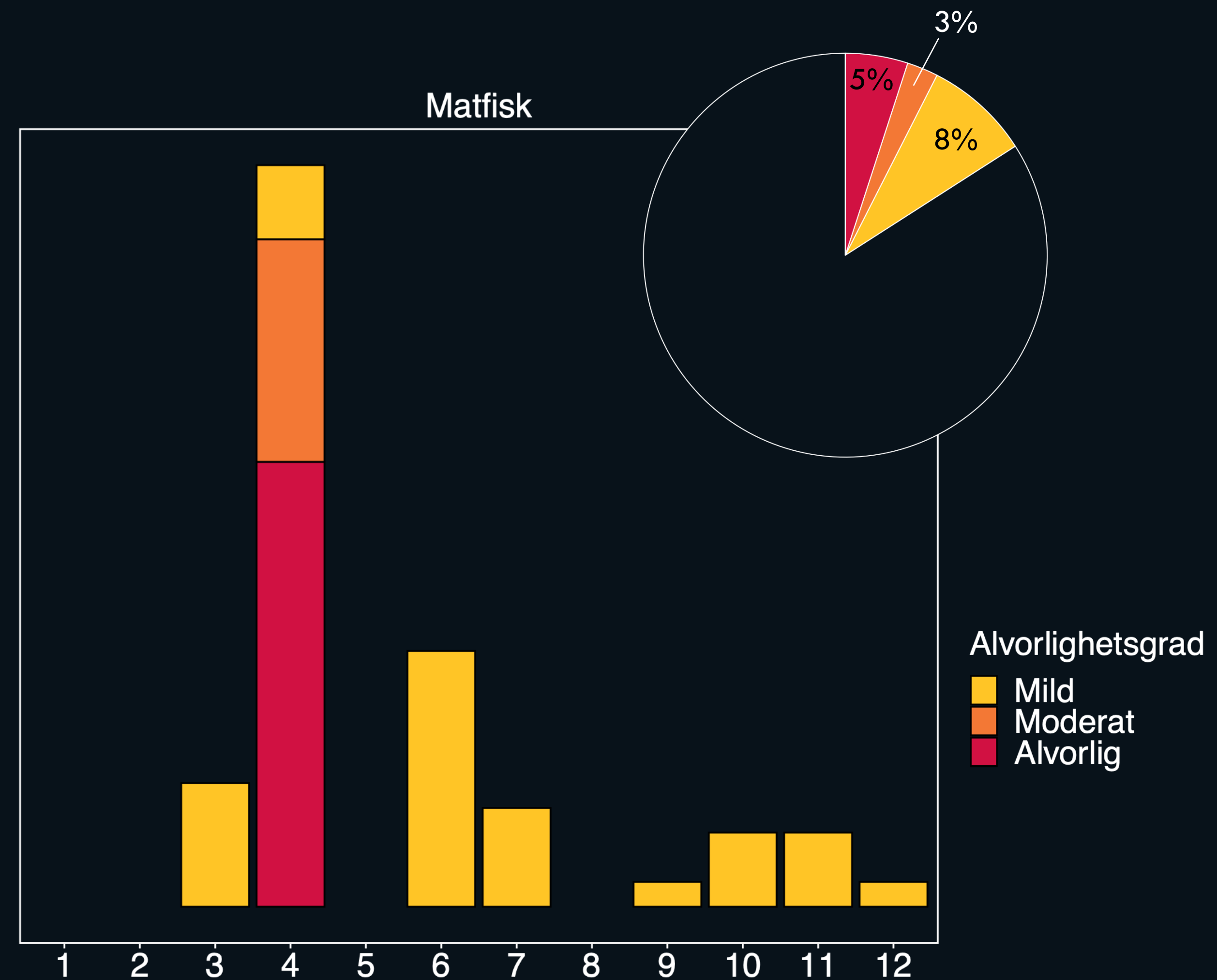
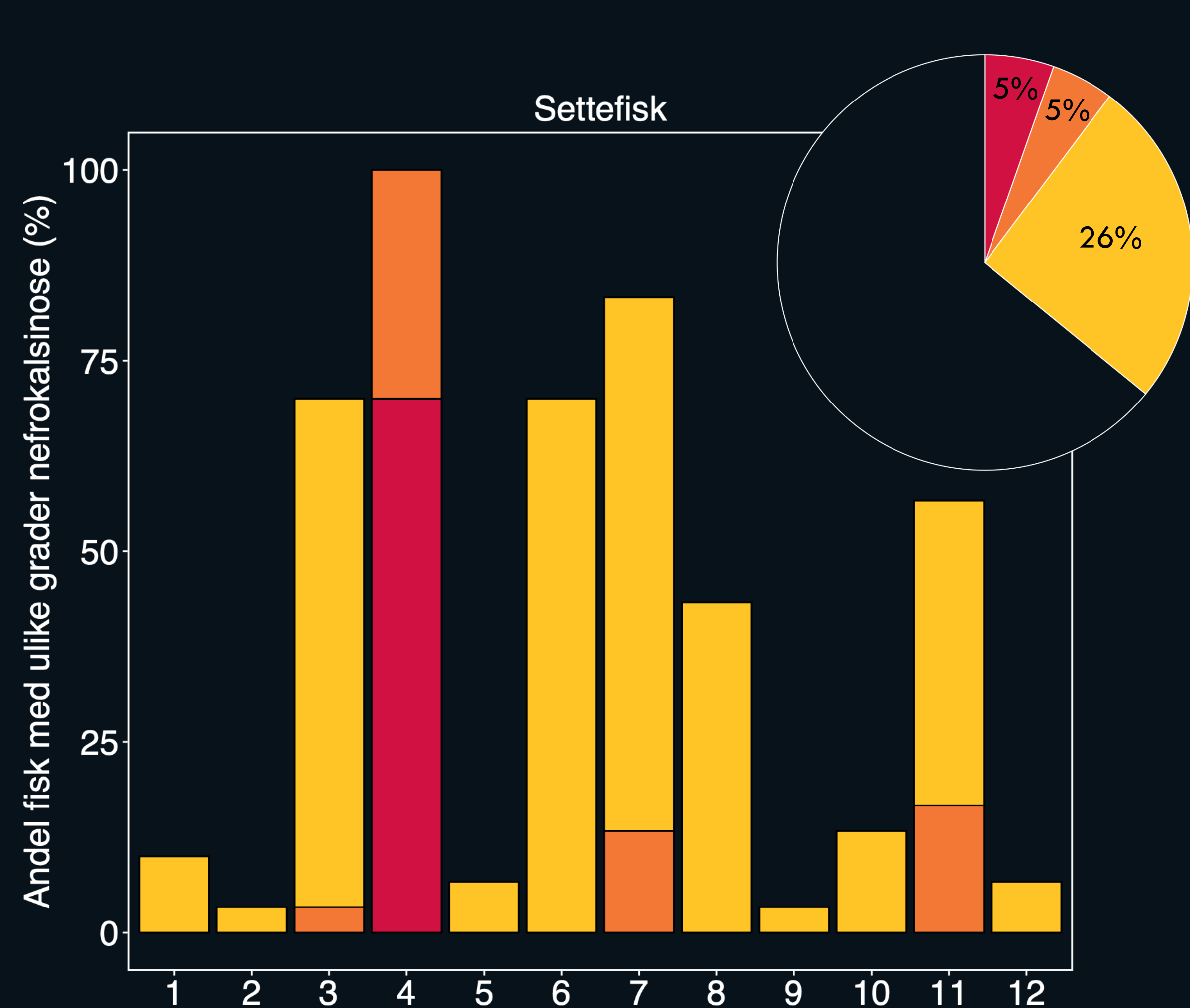
- Mild
- Moderat
- Alvorlig



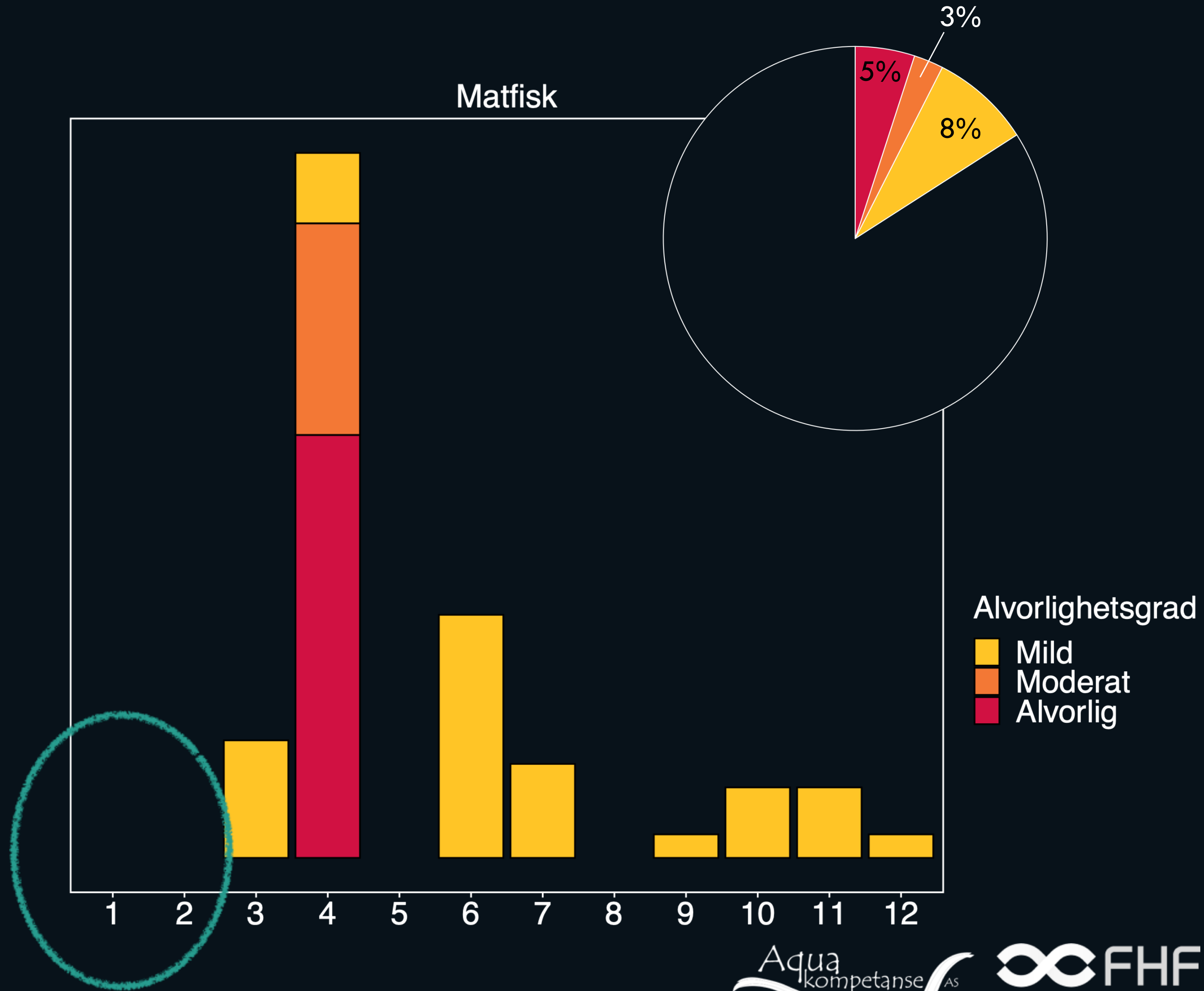
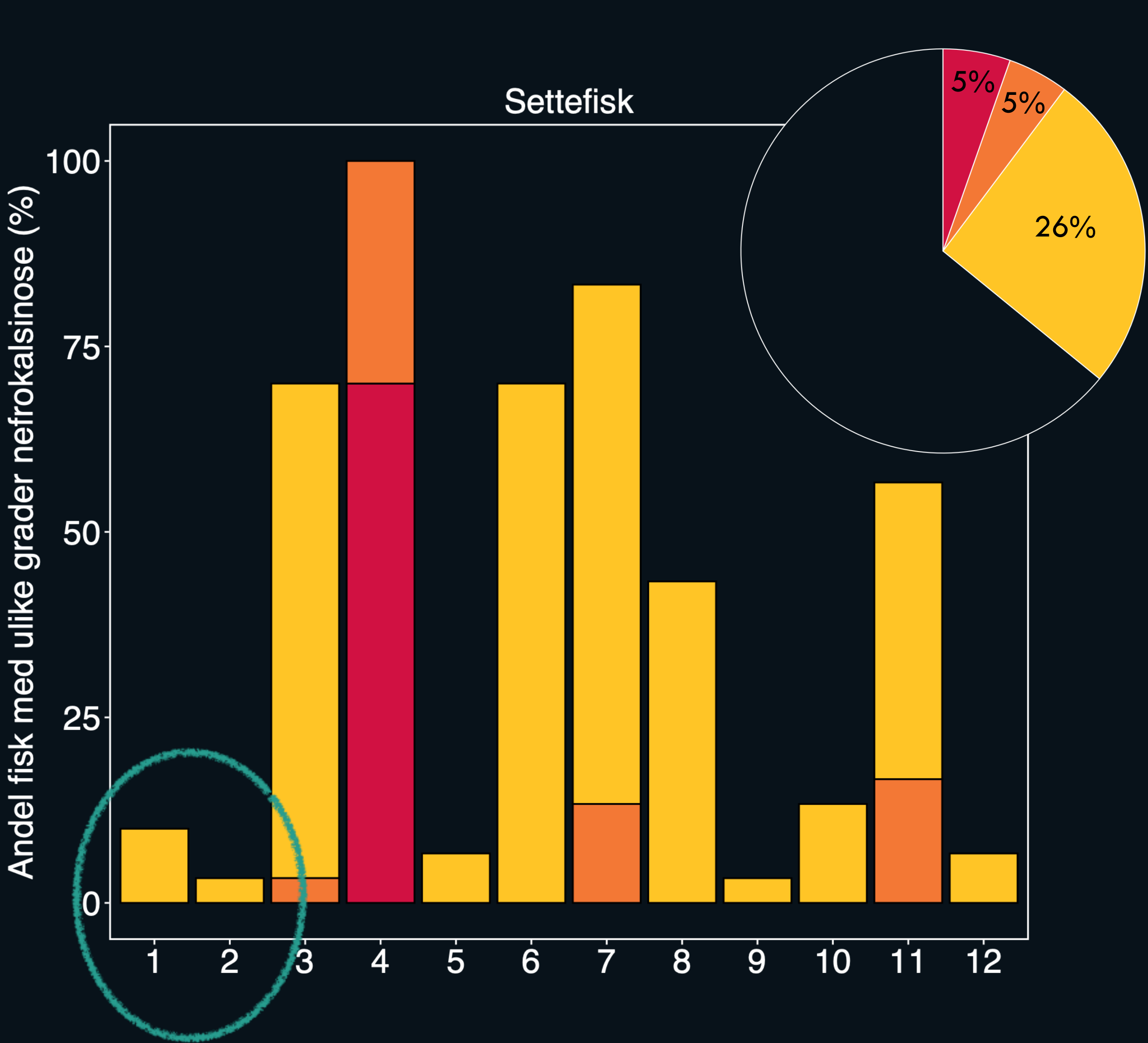
Produksjonsformer påvirker ikke nefrokalsinose



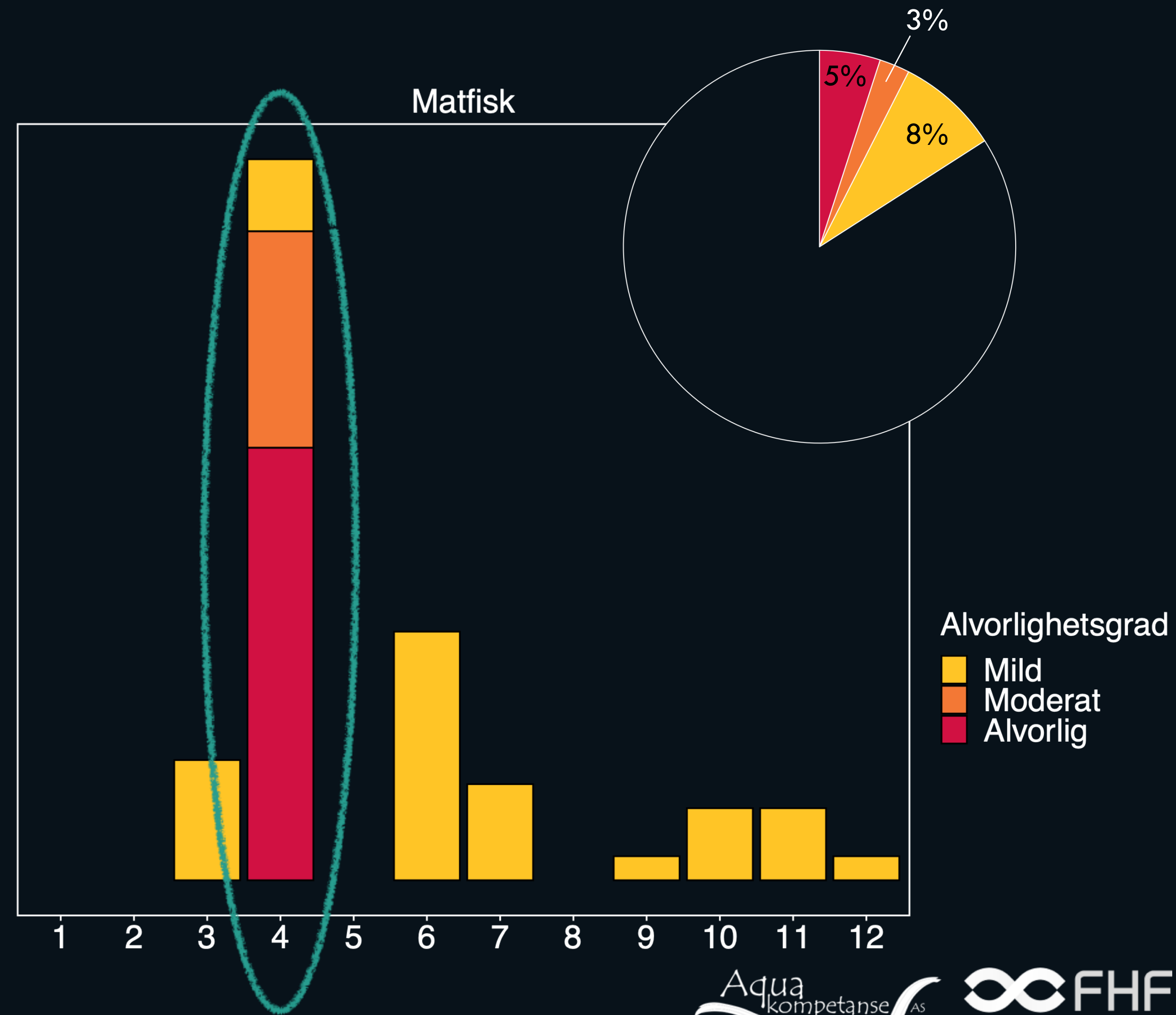
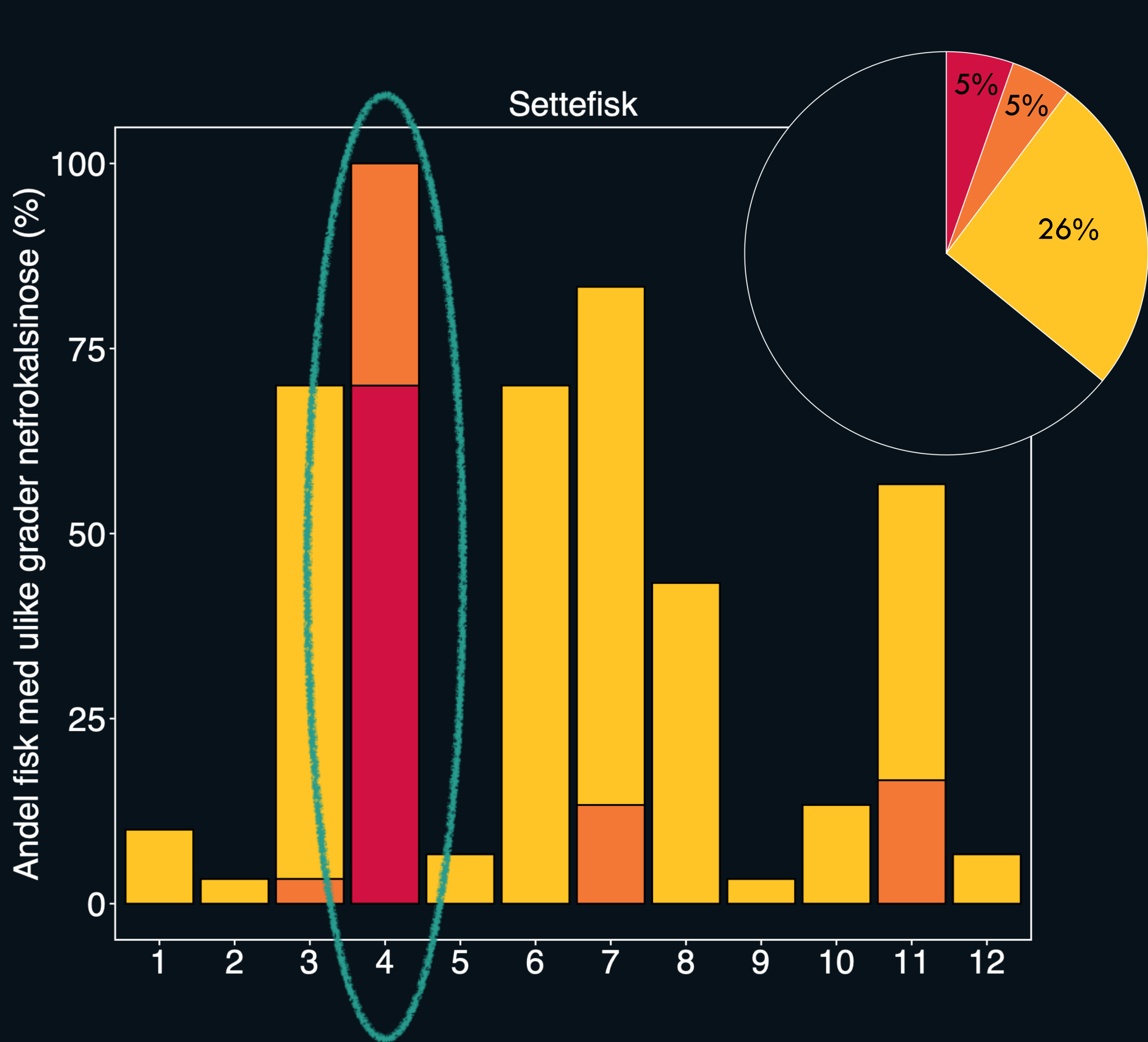
Milde grader trolig er reversible



Milde grader trolig er reversible



Milde grader trolig er reversible

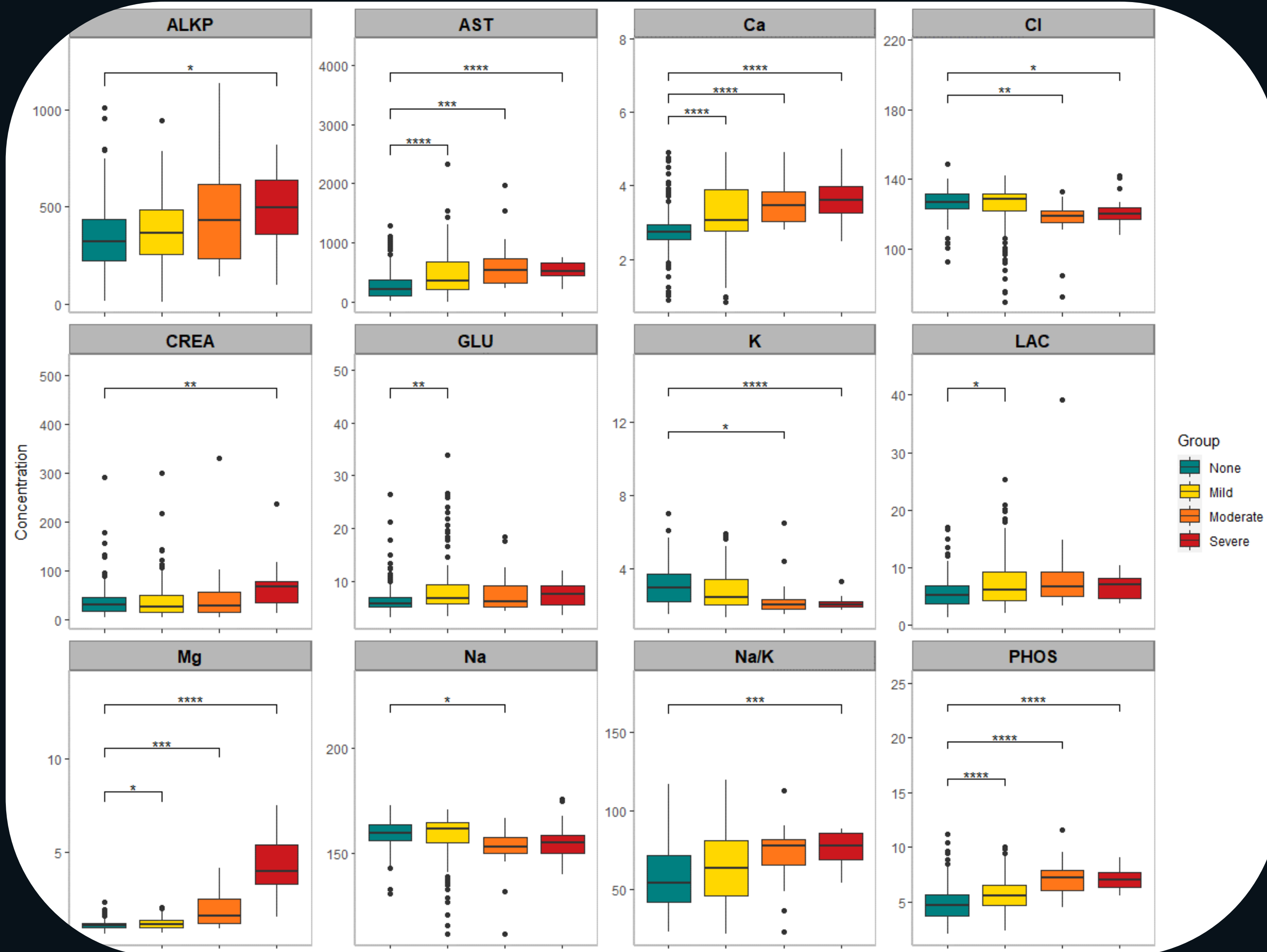


Nyreforkalkninger

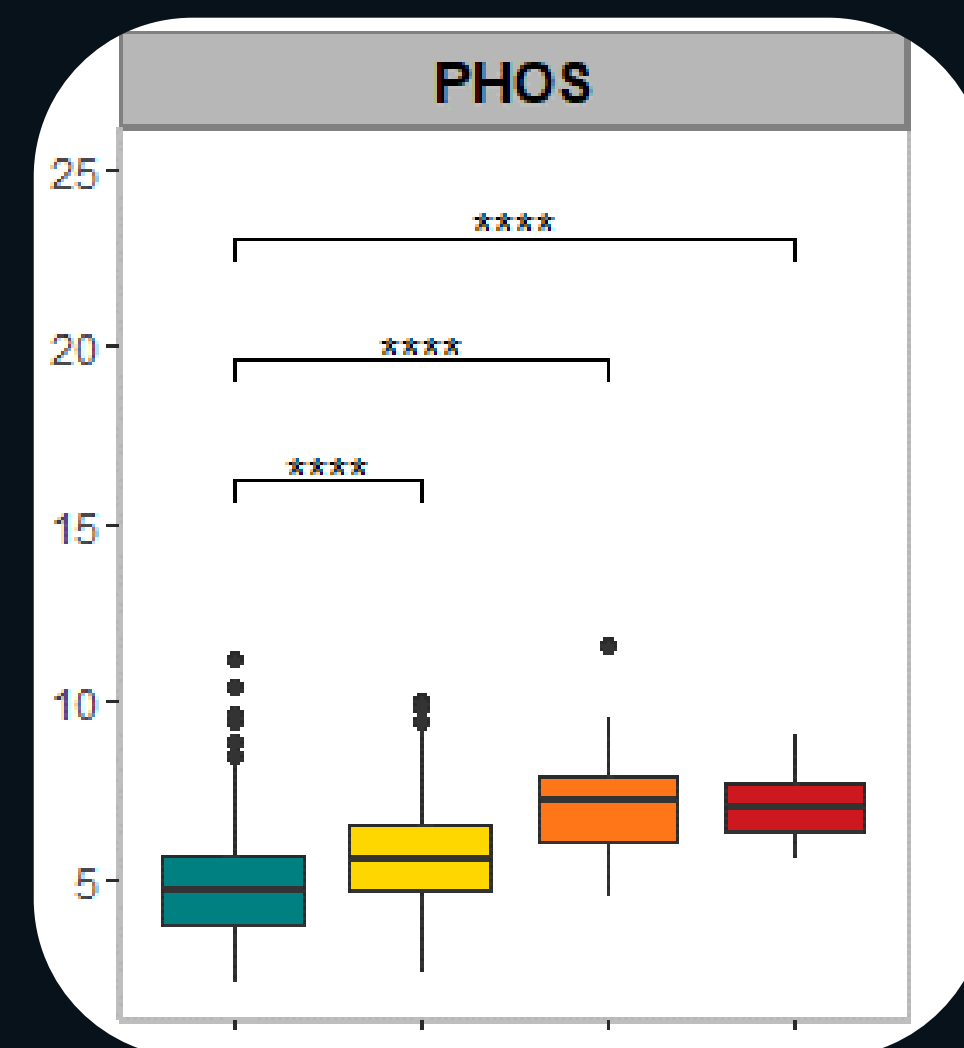
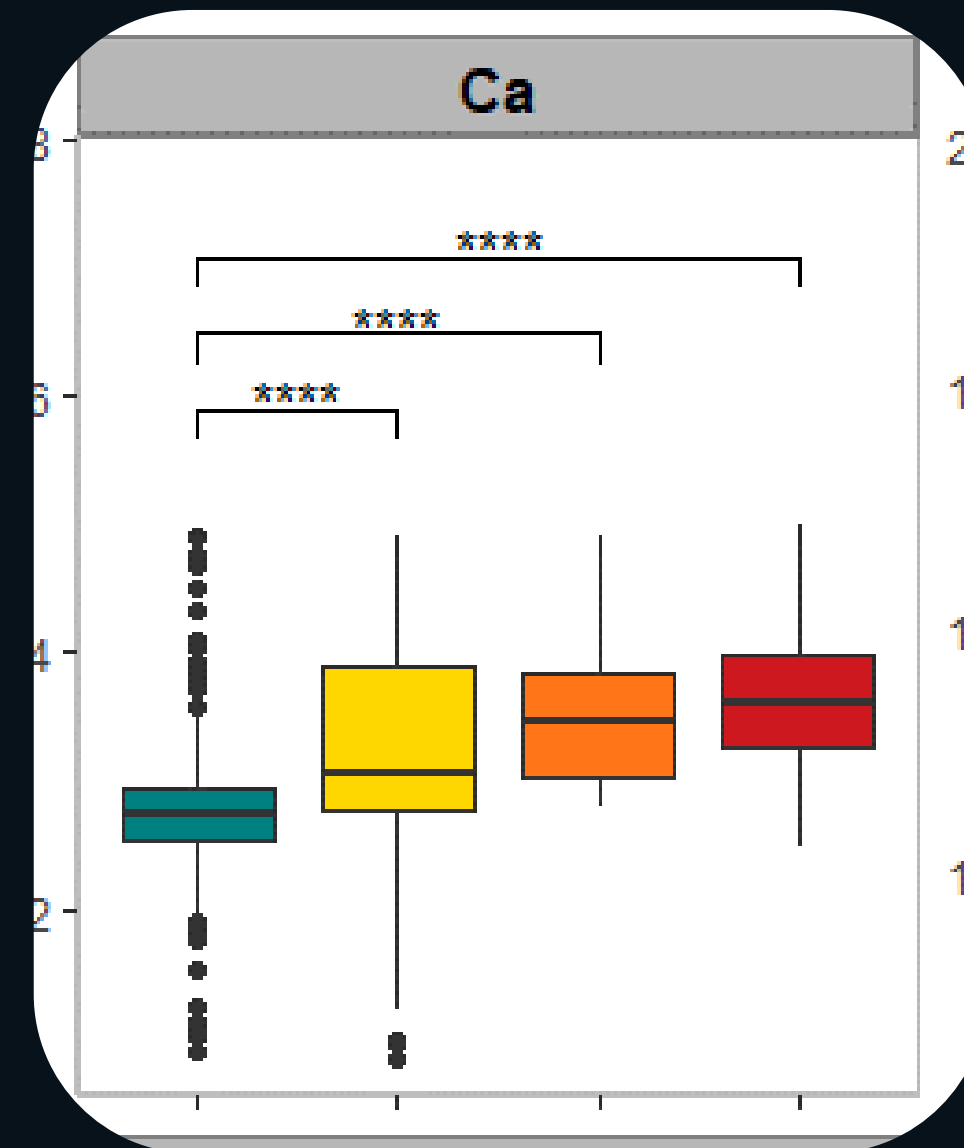
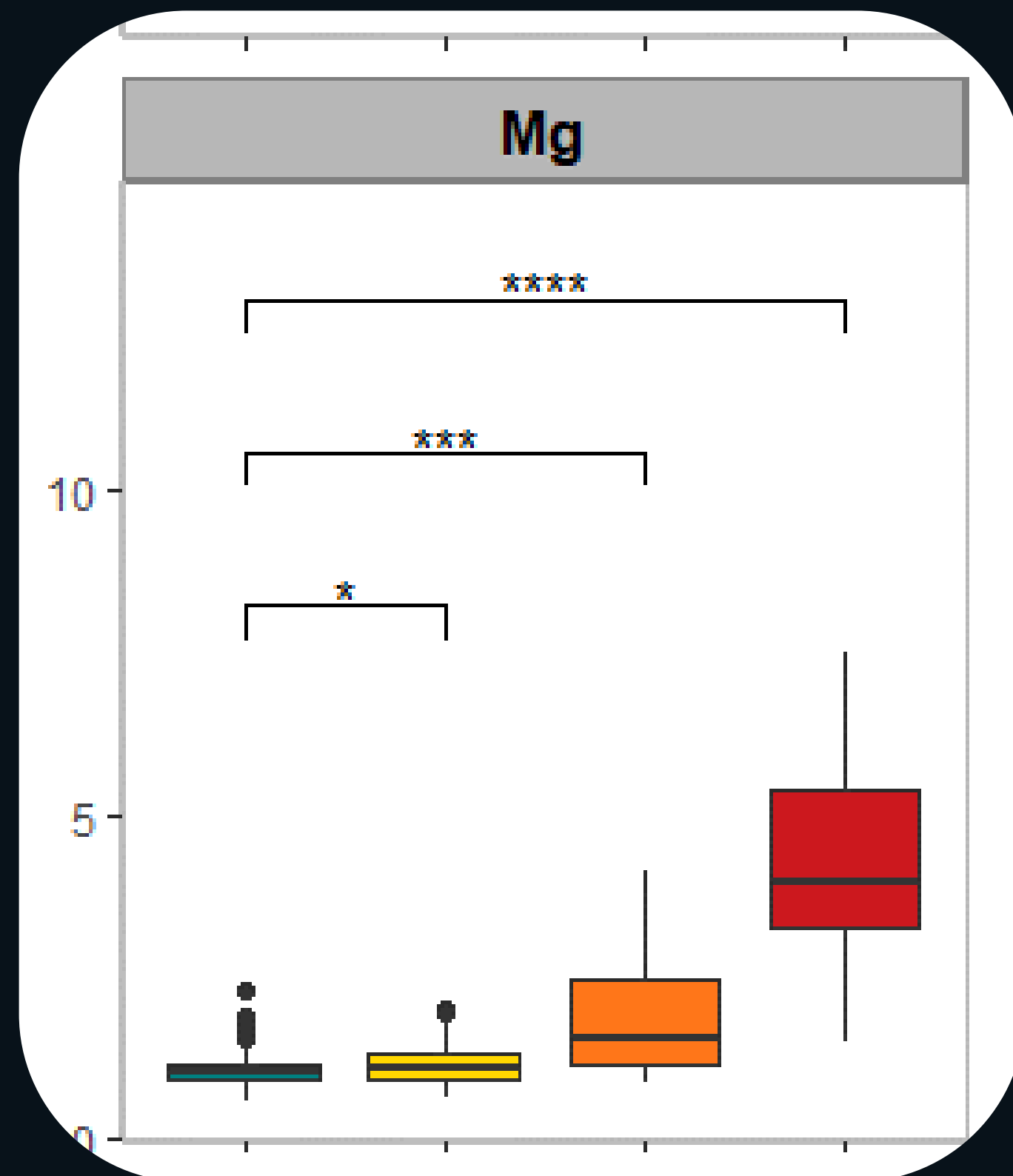


Mineral complex	Chemical formula	Samples (n)	Proportion (%)
Amorphous carbonate apatite	$\text{Ca}_{10}(\text{PO}_4)_6\text{CO}_3$	68	98.6
Struvite	$\text{MgNH}_4\text{PO}_4 \times 6 \text{ H}_2\text{O}$	6	8.7
Brushite	$\text{CaHPO}_4 \times \text{H}_2\text{O}$	7	10.2
Whitlockite	$\text{MgCa}_8(\text{PO}_4)_6$	10	14.5
Newberyite	$\text{MgHPO}_4 \times 3 \text{ H}_2\text{O}$	8	11.6

Fysiologiske forandringer



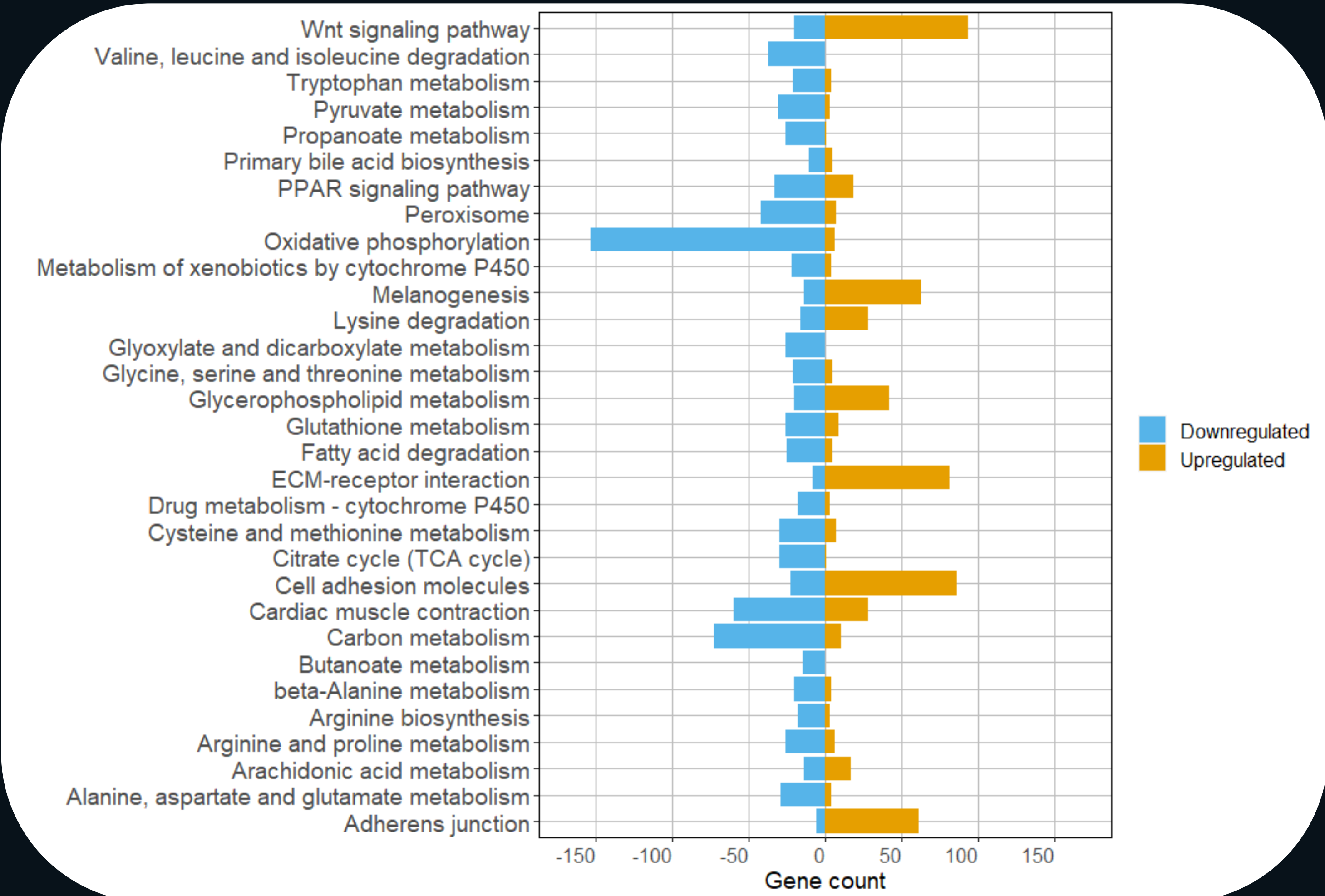
Fysiologiske forandringer



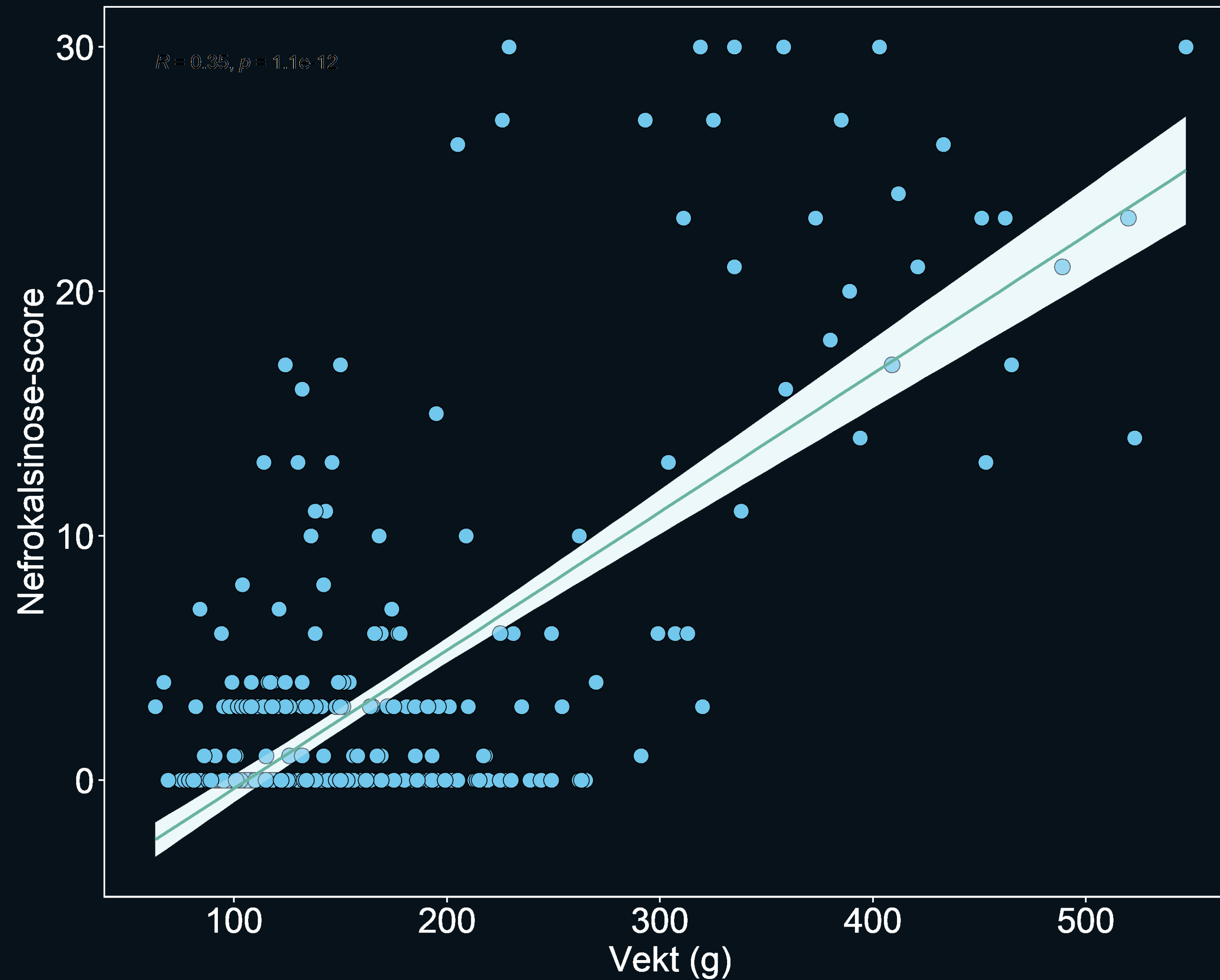
Fysiologiske forandringer

Massiv nedregulering av metabolisme og energiproduksjon.

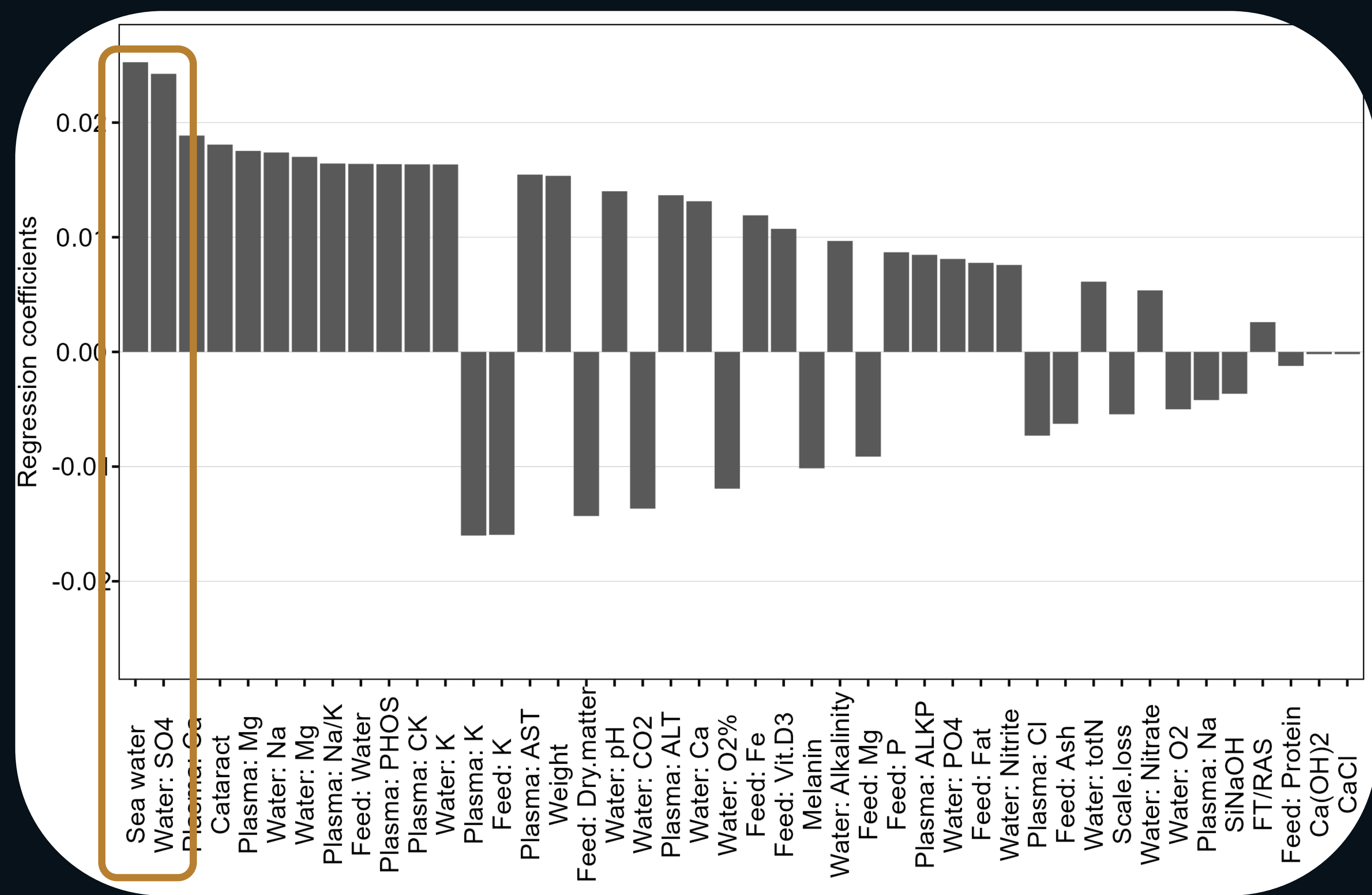
Oppregulering av reparasjonsprosesser og inflammatoriske responser.



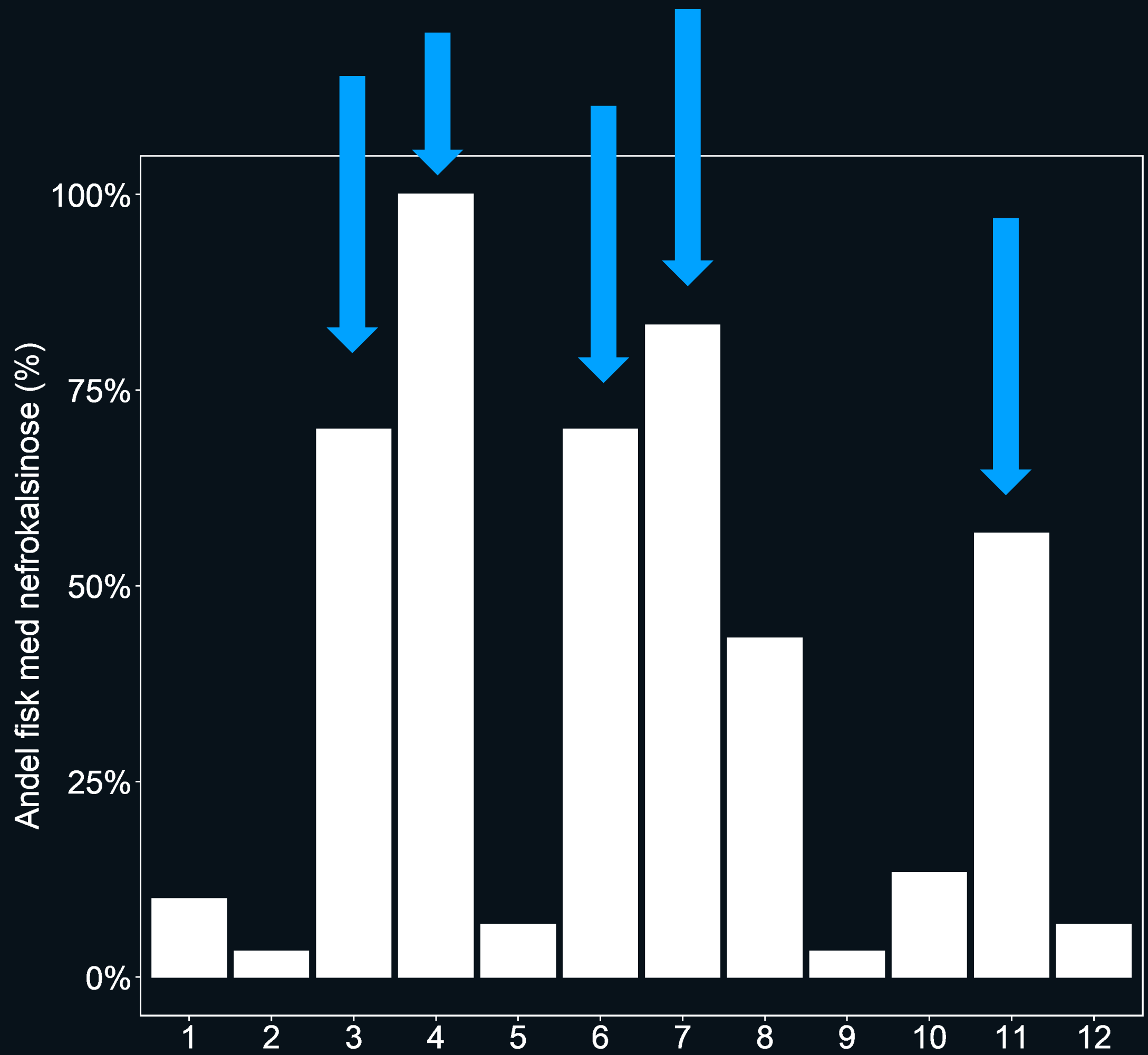
Biologiske risikofaktorer



Hvilke faktorer i miljøet er knyttet til nefrokalsinose?

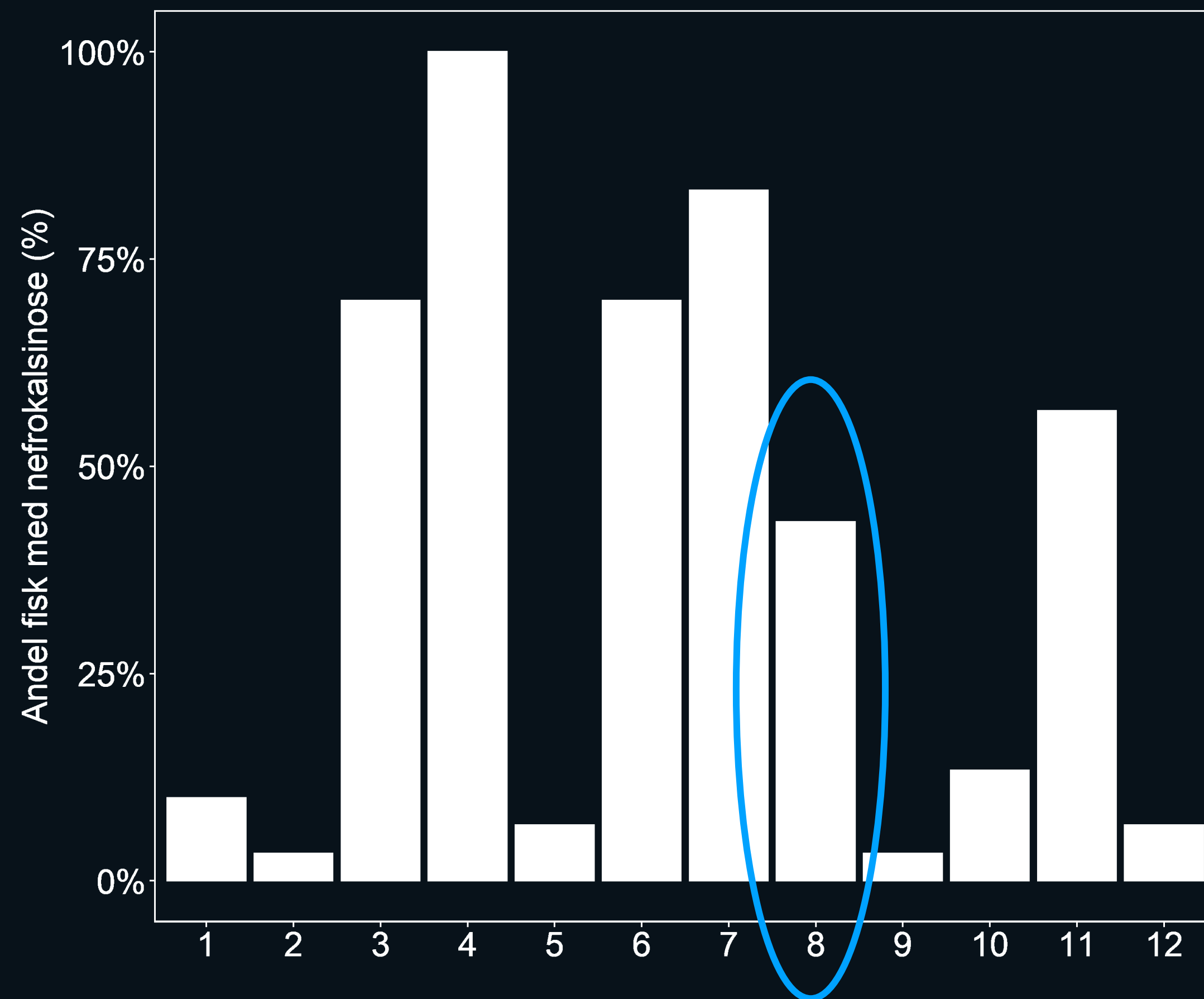


Salinitet og nefrokalsinose



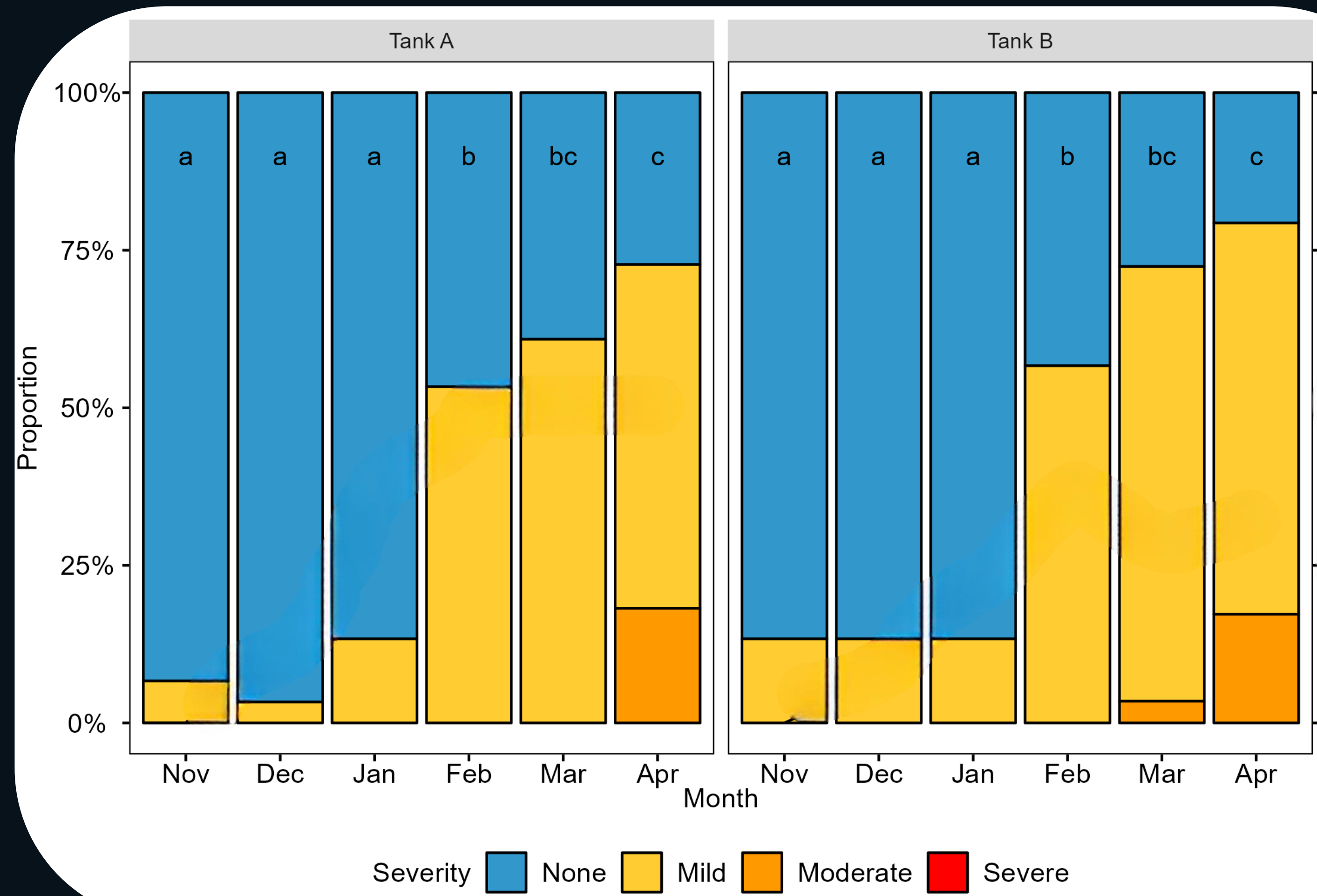
36% fisk med nefrokalsinose

Salinitet og nefrokalsinose



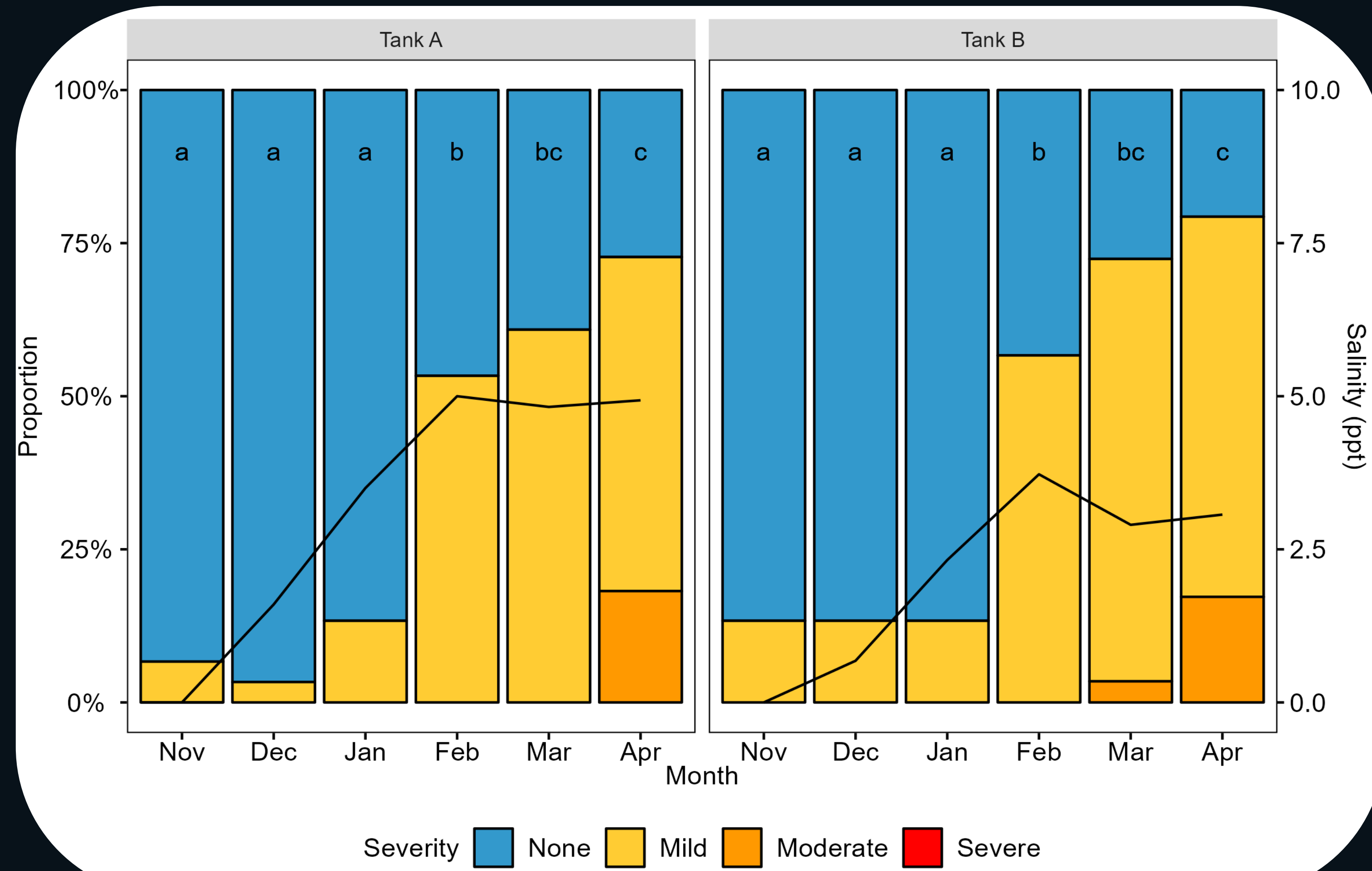
36% fisk med
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Salinitet og nefrokalsinose



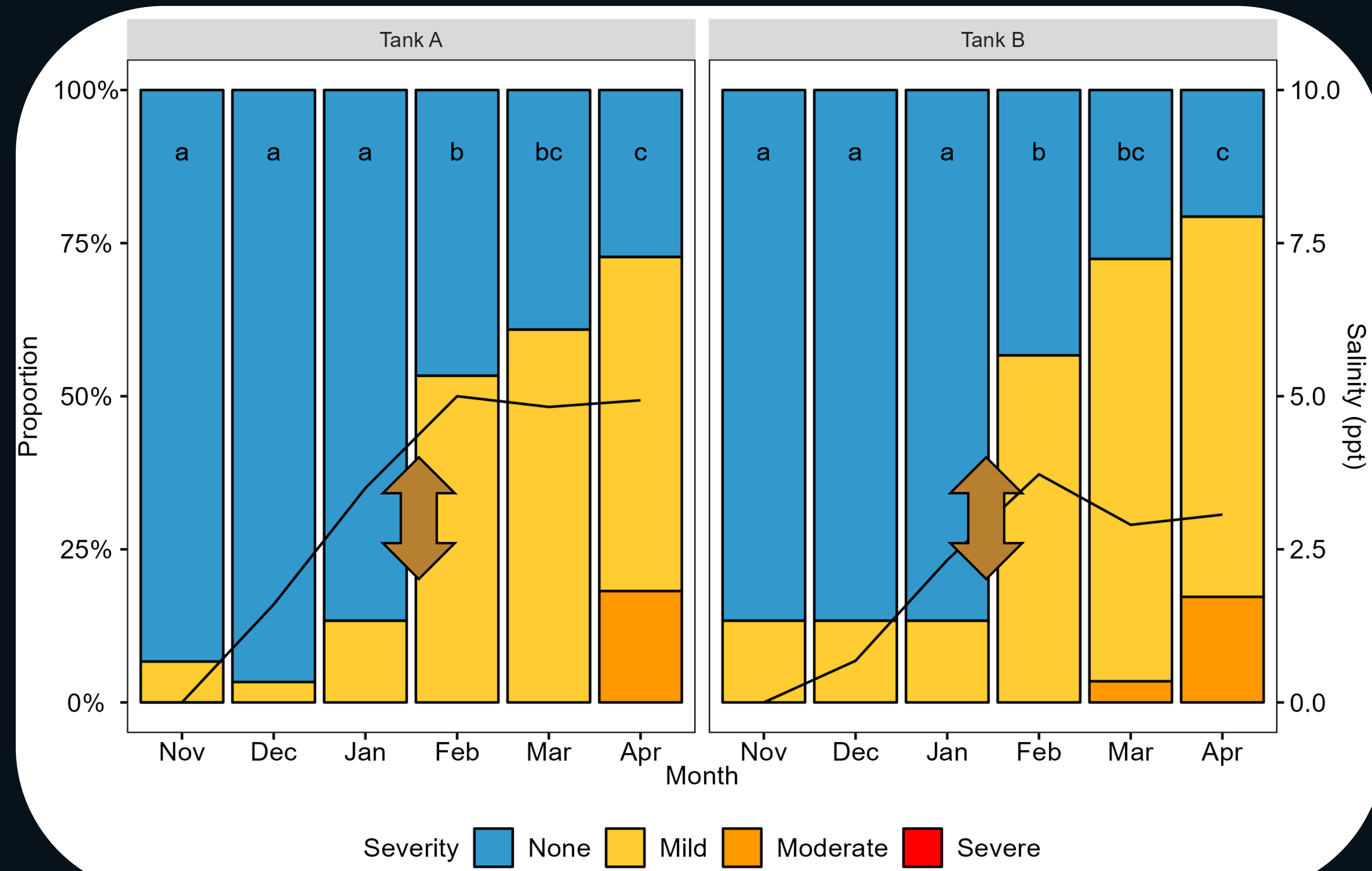
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Salinitet og nefrokalsinose



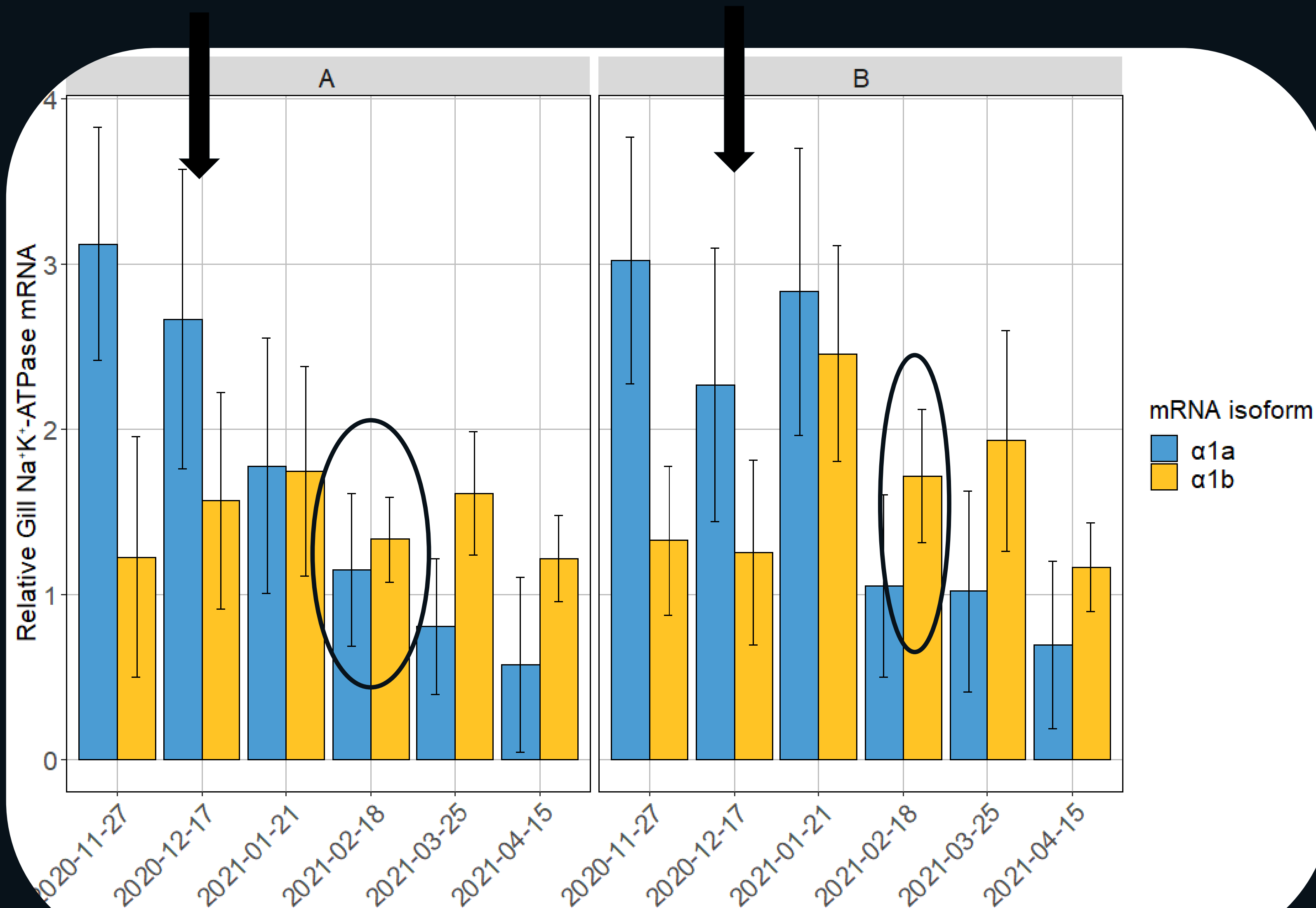
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Salinitet og nefrokalsinose



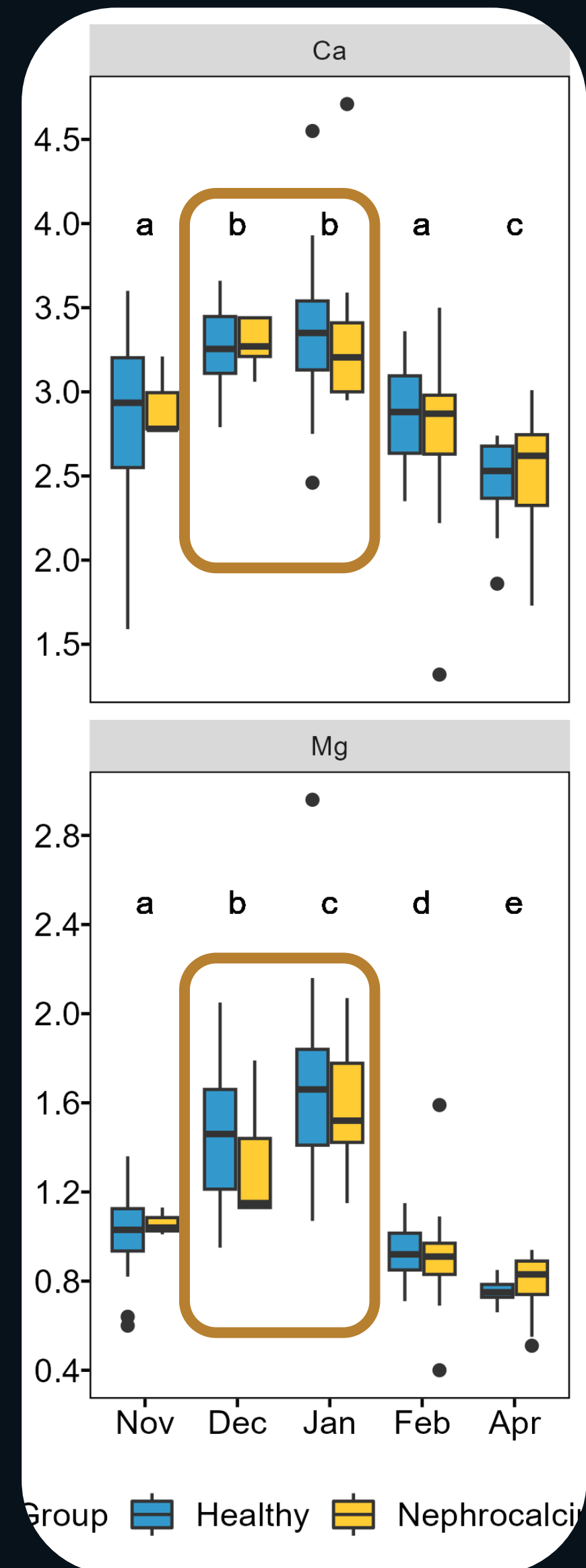
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Salinitet og nefrokalsinose



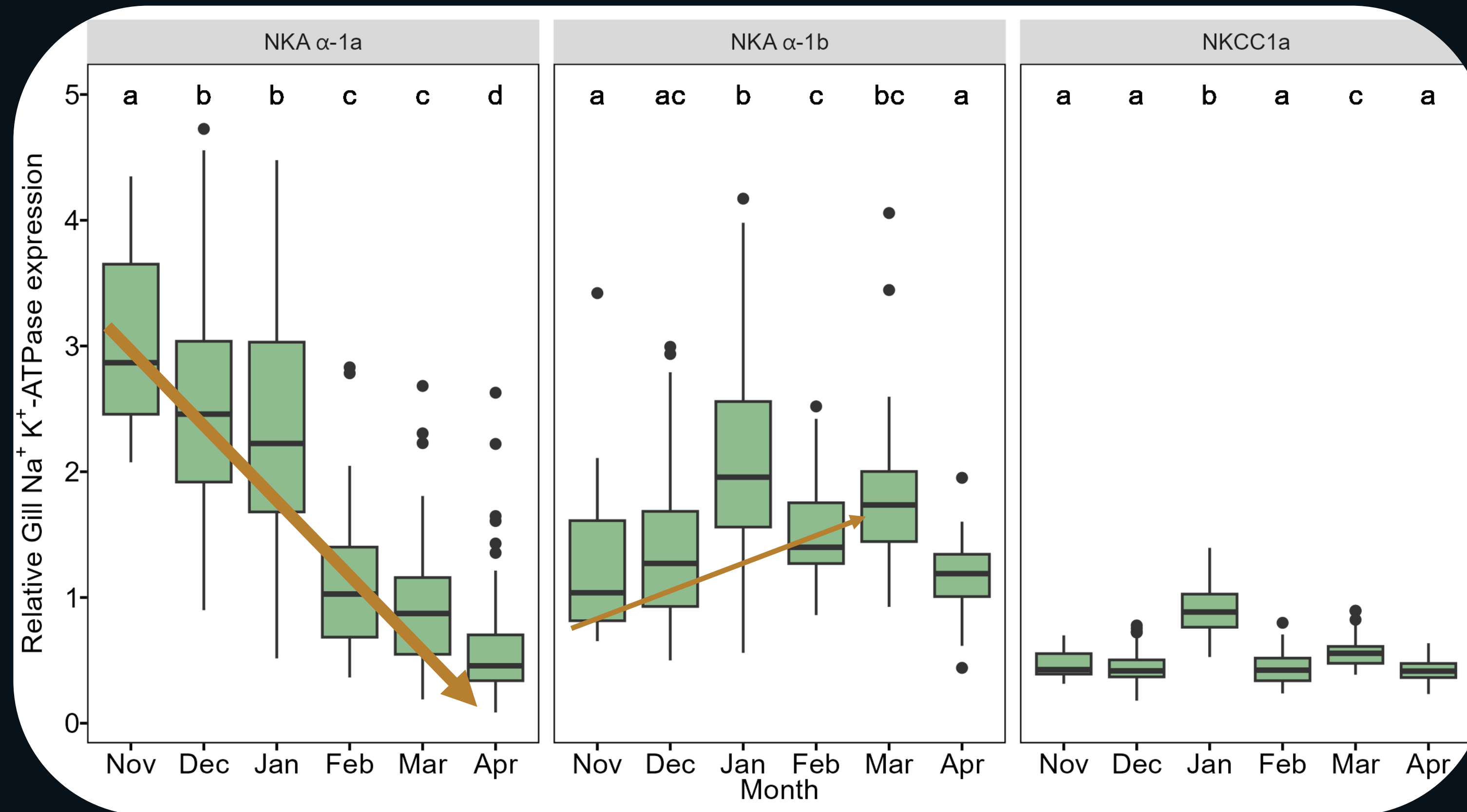
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Salinitet og nefrokalsinose



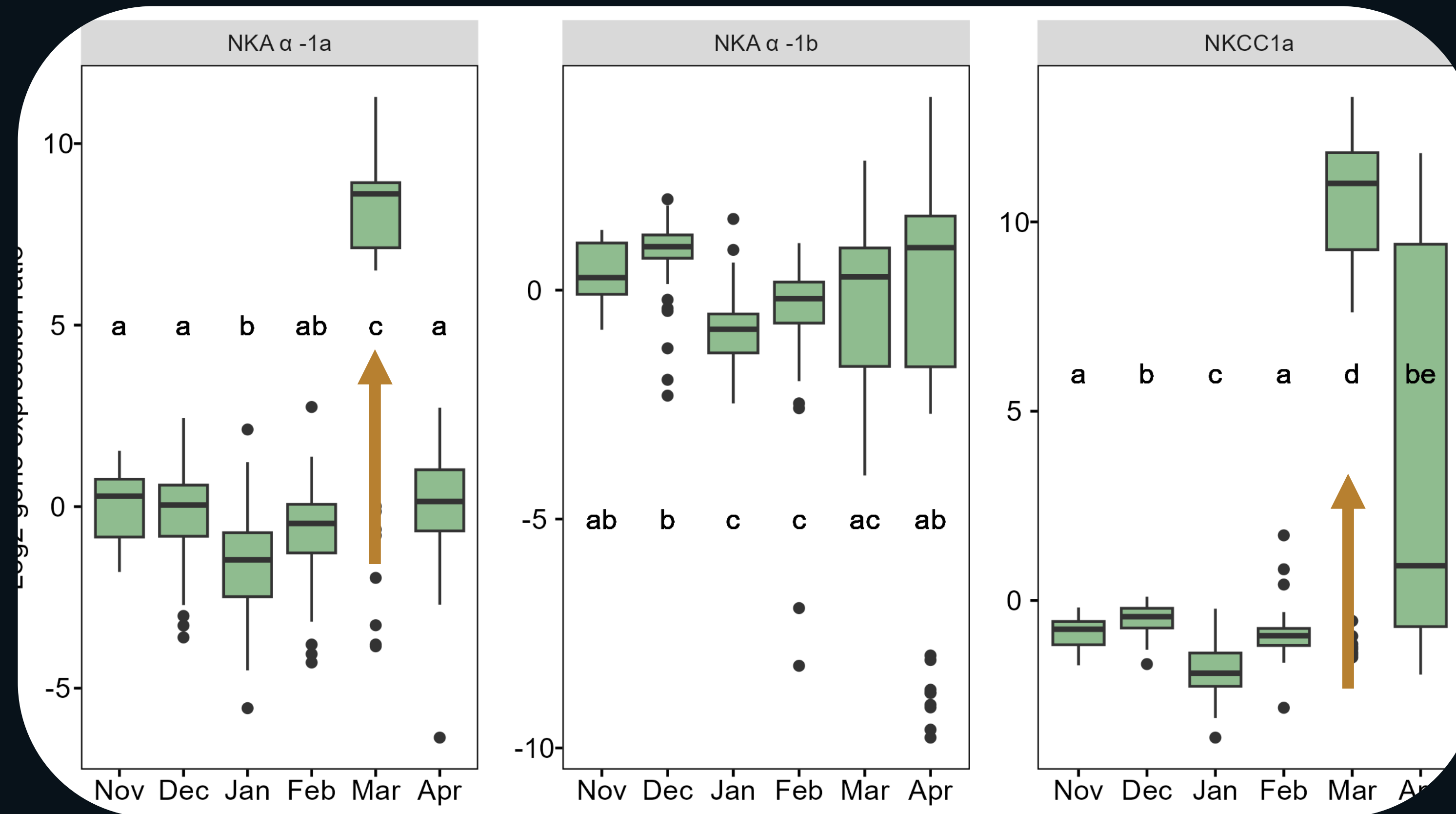
36% fisk med
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Salinitet og nefrokalsinose



36% fisk med
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Salinitet og nefrokalsinose



36% fisk med
nefrokalsinose

Vitenskapelig artikler

Aquaculture 554 (2022) 738104



Contents lists available at ScienceDirect

Aquaculture

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



Physiological changes observed in farmed Atlantic salmon (*Salmo salar* L.) with nephrocalcinosis

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Received: 6 June 2022 | Revised: 28 July 2022 | Accepted: 29 July 2022

DOI: 10.1111/jfd.13704

SHORT COMMUNICATION



Radiological detection of nephrocalcinosis in farmed Atlantic salmon *Salmo salar* L.

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Received: 19 April 2022 | Revised: 29 June 2022 | Accepted: 30 June 2022

DOI: 10.1111/jfd.13687

RESEARCH ARTICLE



Gene expression patterns in Atlantic salmon (*Salmo salar*) with severe nephrocalcinosis

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Received: 13 February 2023 | Revised: 12 May 2023 | Accepted: 17 May 2023

DOI: 10.1111/jfd.13815

RESEARCH ARTICLE



Nephrocalcinosis in juvenile farmed Atlantic Salmon (*Salmo salar*) may be linked to osmoregulatory stress

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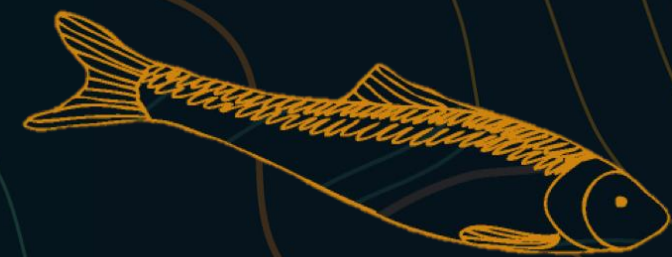


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Morten Lund
Elling Bøkestad
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Operational
managers and
personell at all
sampling sites





Takk for oppmerksomheten