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TROPHIC TRANSFER OF TRACE ELEMENTS IN A EURYHALINE TELEOST, THE TURBOT *SCOPHTHALMUS MAXIMUS*: CONTRASTING EFFECTS OF SALINITY ON MN AND ZN

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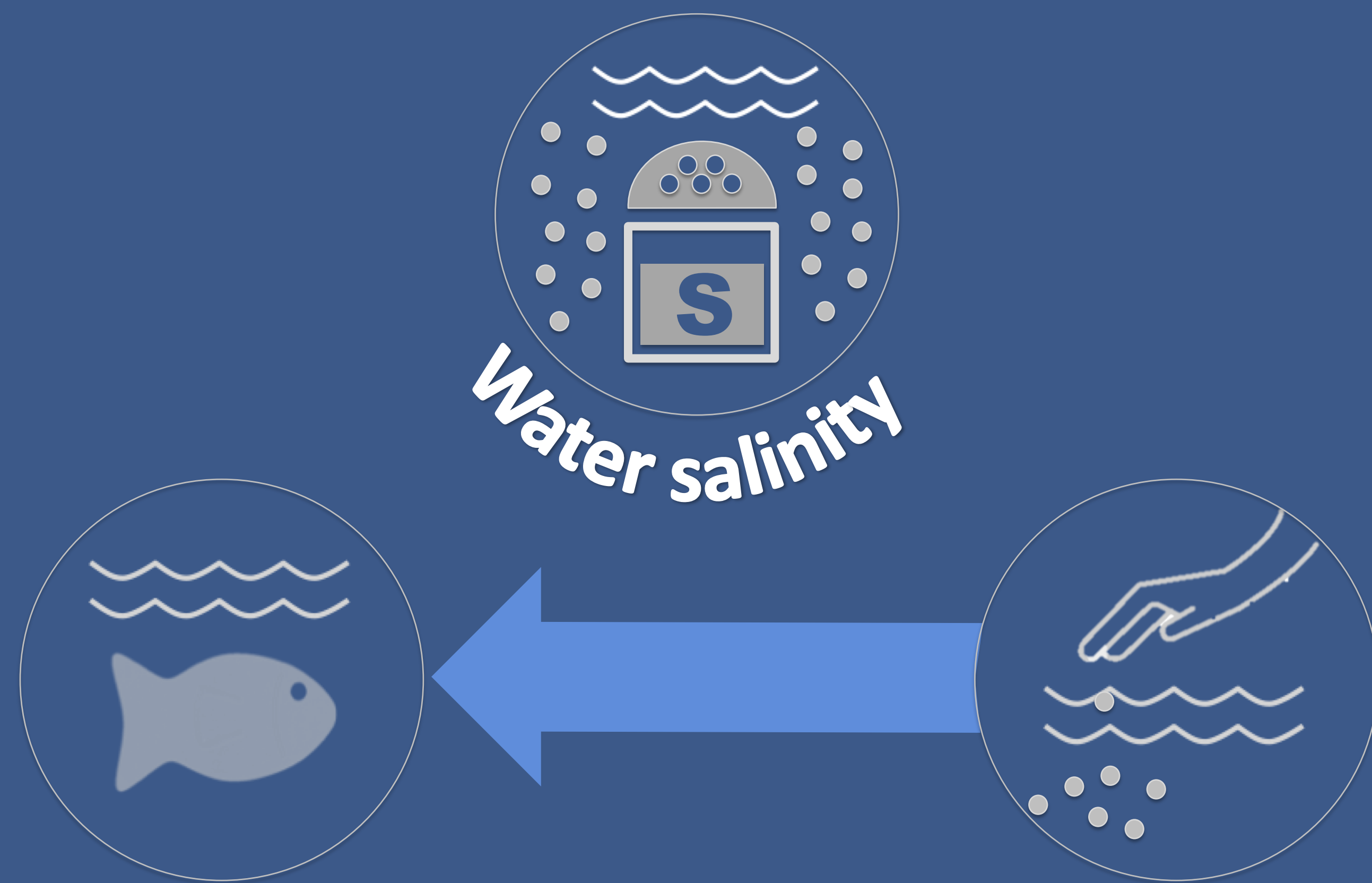
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Context

- Fish may face wide variation of salinity in their environment
- Water salinity may affect transfer of essential elements
- Euryhaline species are more adapt to salinity changes

Does a gradient of salinity modifies Assimilation Efficiencies of Zn and Mn in Turbot ?



Materials and methods

Radiotracers

⁵⁴Mn & ⁶⁵Zn

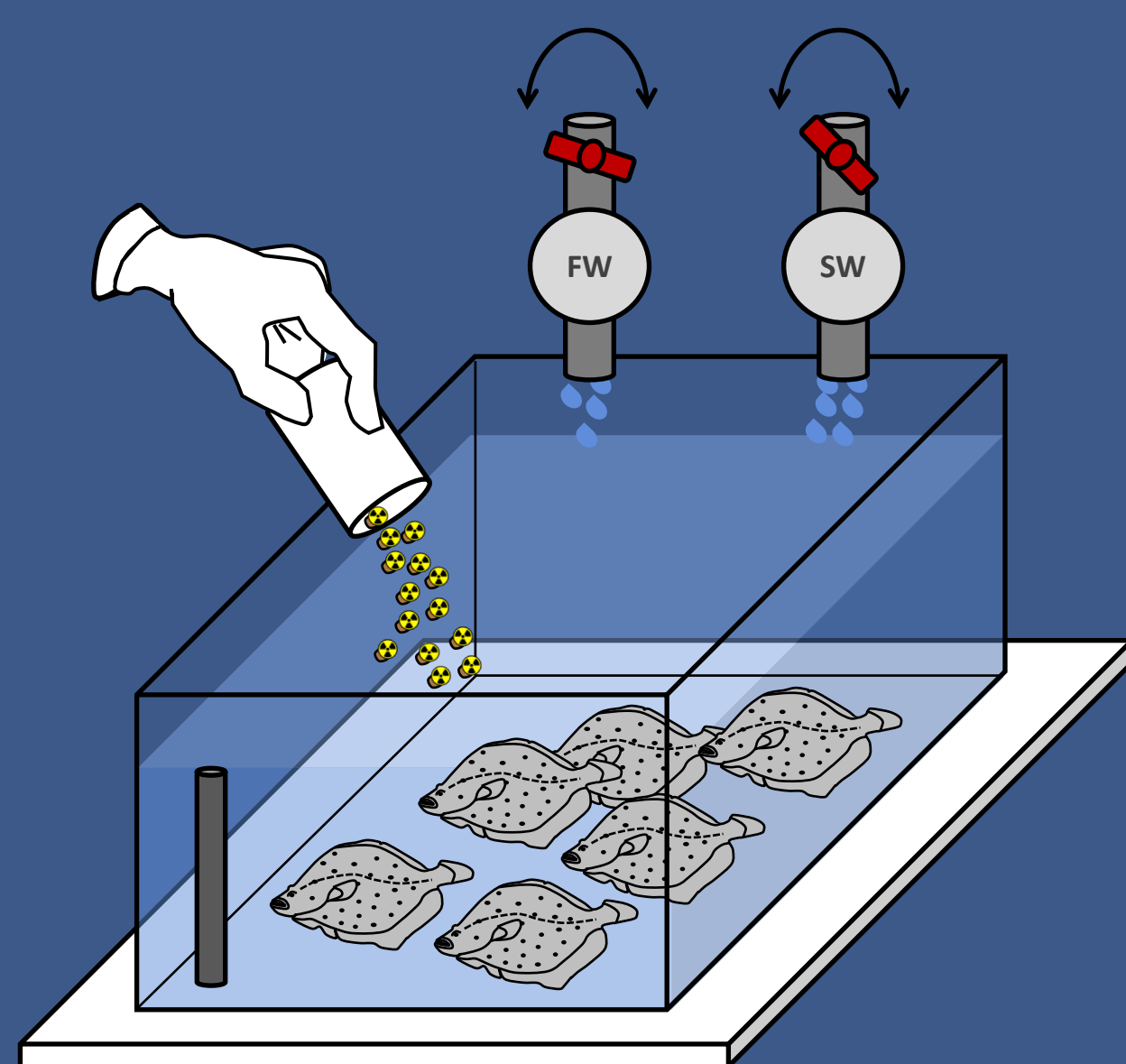
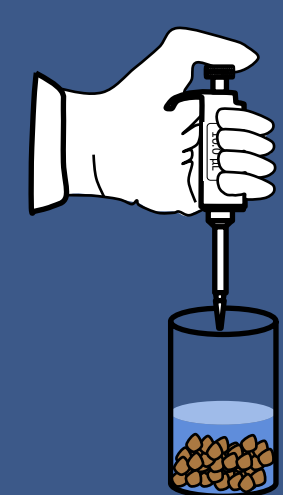
Salinity conditions

3 salinities (10, 25 & 38)

Trophic transfer

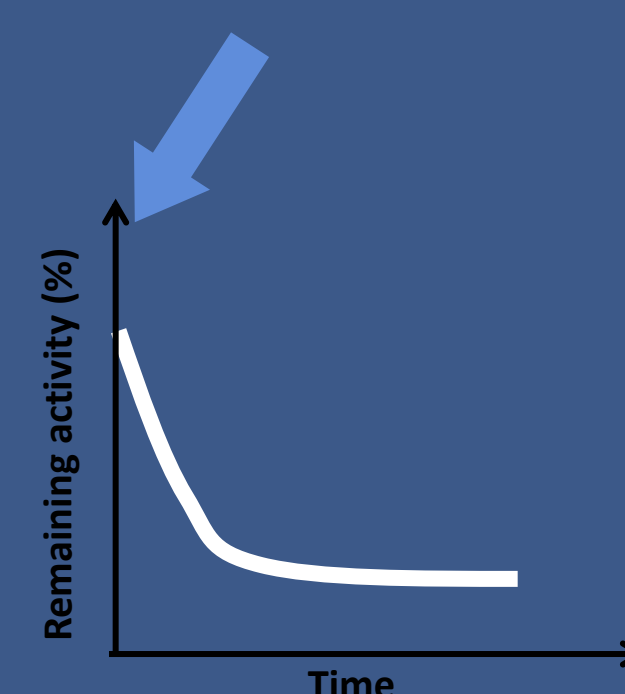
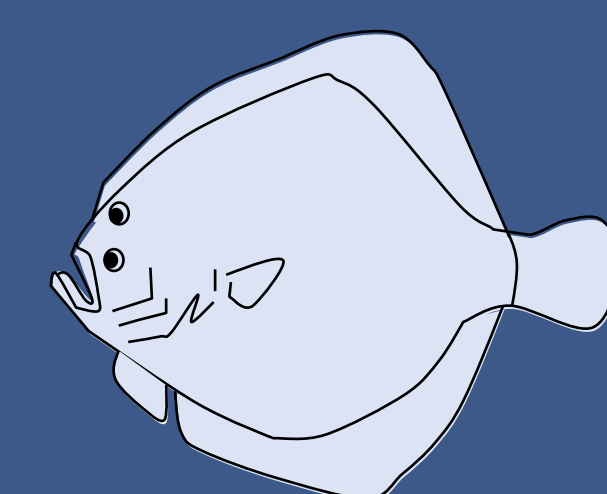
Pulse-chase feeding (=one single feeding)

1 Radiolabelling of pellets with dissolved radiotracers

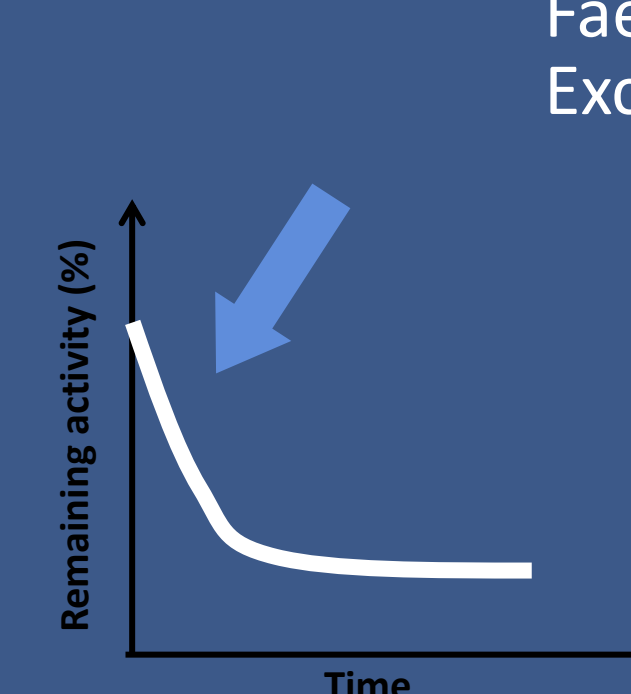
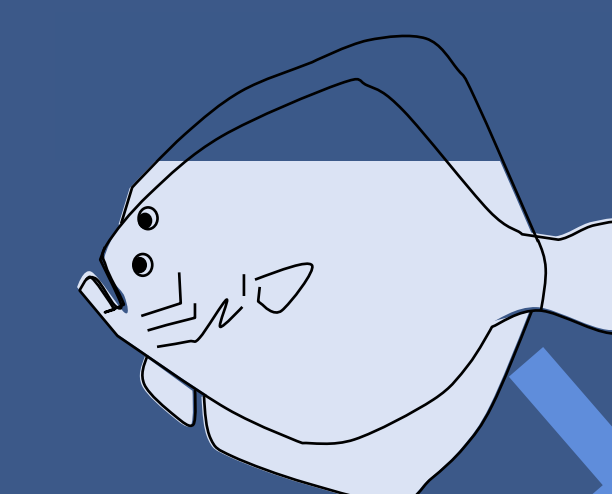


2 Single-feeding with radiolabeled pellets
Turbot acclimated to 3 salinities (10, 25 and 38)

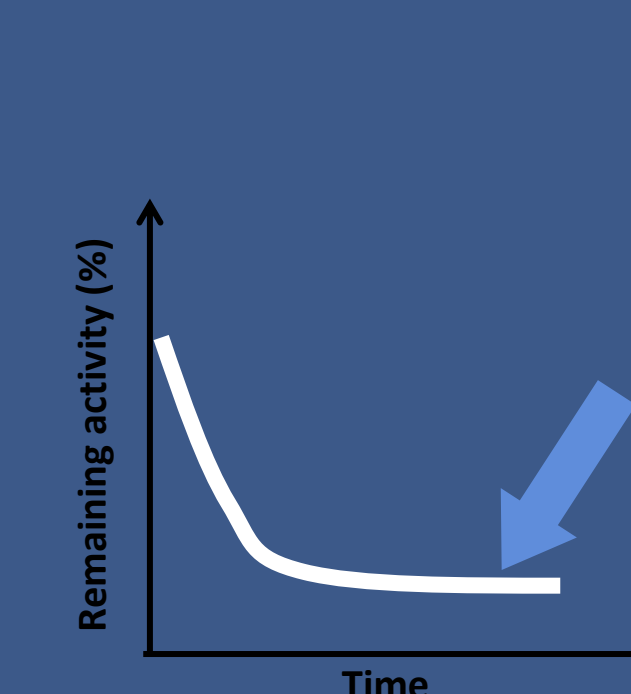
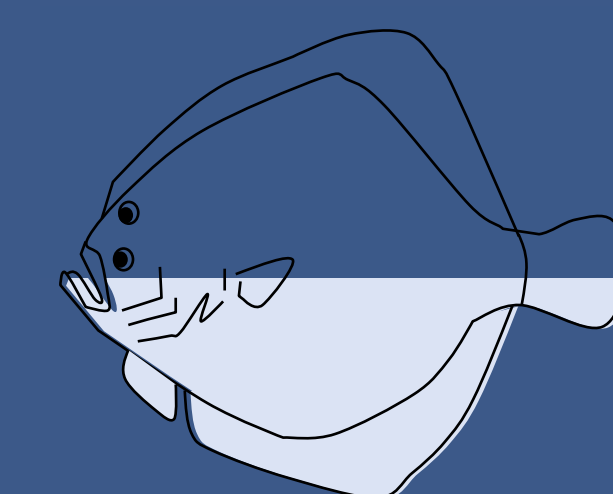
0 Feeding
100% of activity



1 1st Depuration phase
Decrease of activity



2 2nd Depuration phase
Stability of activity

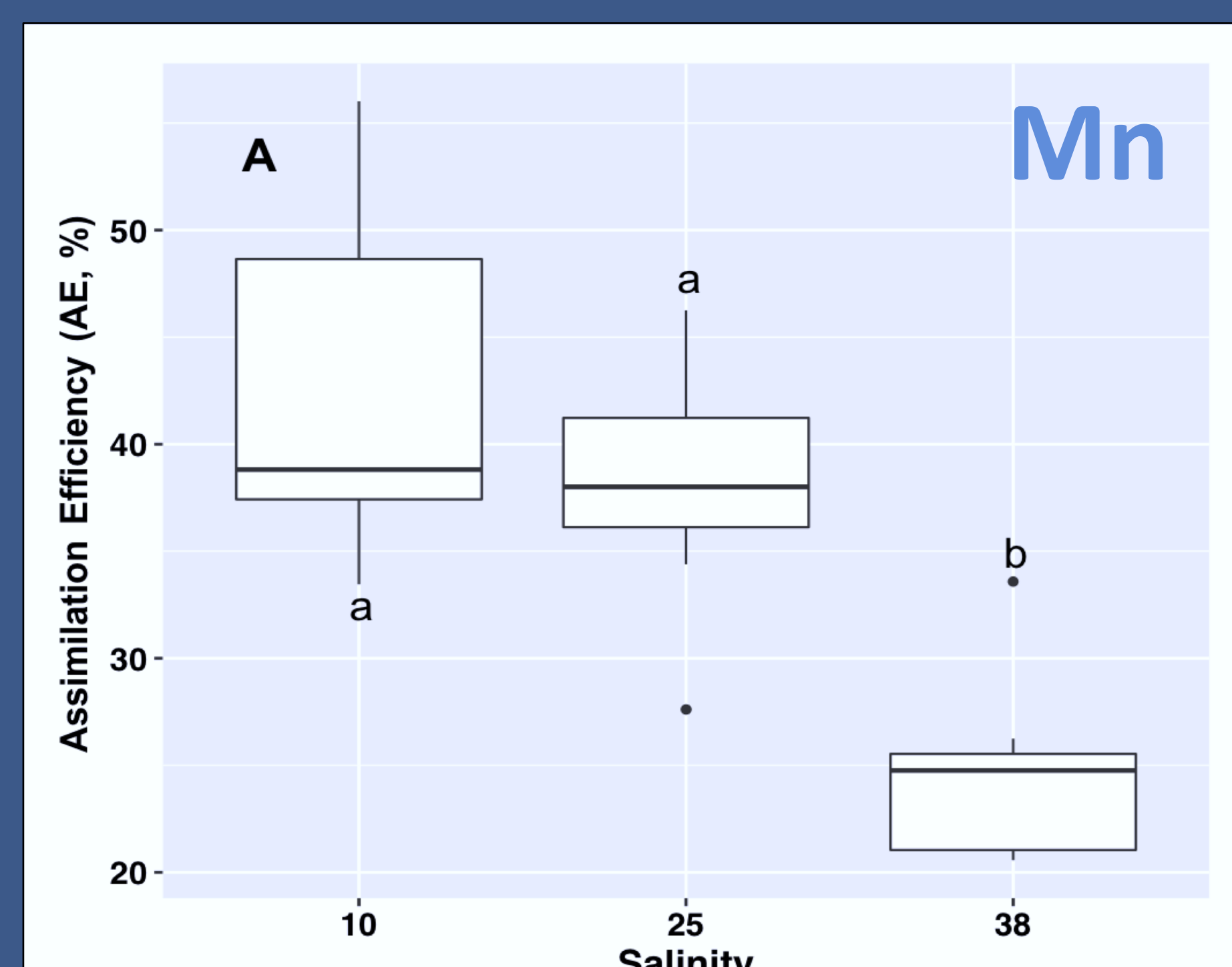
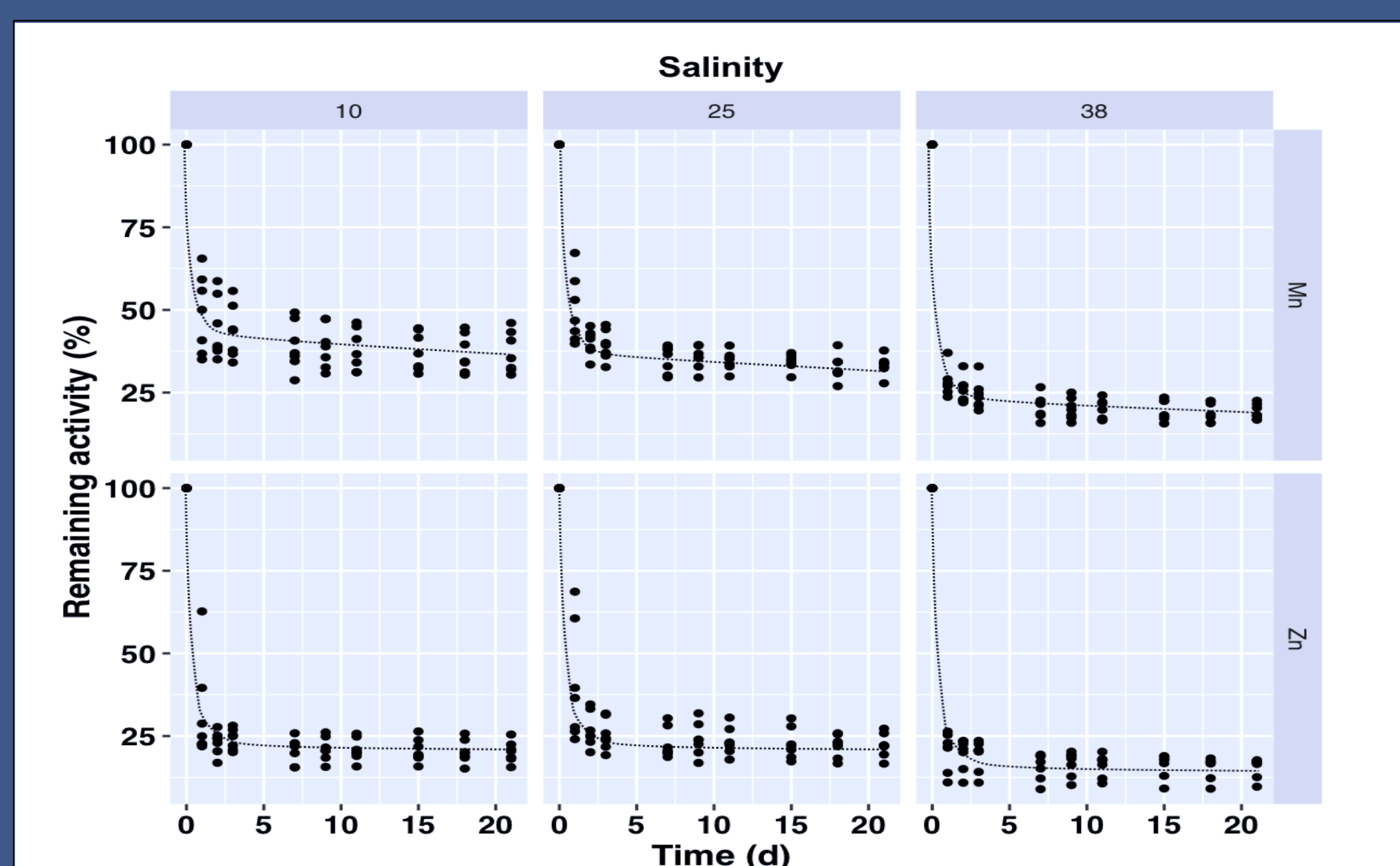


= Assimilation Efficiency (AE)

Results and Discussion

Mn

Zn



- Trophic transfer of Mn at the highest salinity was significantly lower than for the other conditions whereas salinity did not significantly influence Zn trophic transfer.
- Differences in the processes involved in the regulation (homeostasis) of the two tested trace elements should explain the contrasting influence of water salinity for Mn and Zn.