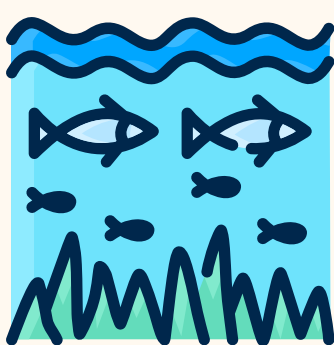


CAN WATER SALINITY REGULATE FISH LIPIDS METABOLISM?

Miguel Torres Rodríguez 1,2*, Juan Antonio Martos Sitcha 2, Juan Miguel Mancera Romero 2.

1 Polytechnic University of Valencia (UPV), Valencia, Spain.

2 Faculty of Marine and Environmental Sciences, University of Cadiz (UCA), Puerto Real, Spain.

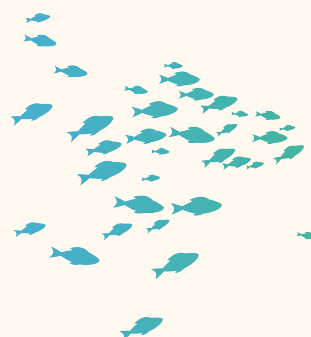


Water Salinity

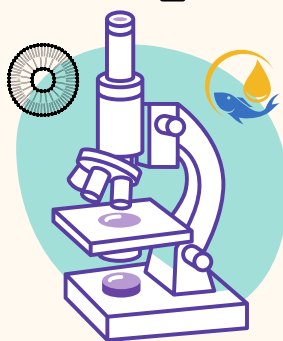
Environmental factors as **water salinity** are key to maintaining an optimal living conditions for aquatic organisms. In the natural environment, specially in earn ponds (**esteros** in Spanish), water salinity can fluctuate according to the rainfall regime, annual temperature season or tidal cycle.

Influence on fish

It is known that environmental salinity can influence in nutritional behavior, growth and metabolism of aquatic organism, affecting on animal welfare and, ultimately, on survival but, **¿can water salinity regulate fish lipids metabolism?**



Experimental design



Taking as a model the euryhaline fish *Fundulus heteroclitus*, the aim of this assay was to evaluate the influence of water salinity concentration (2, 20, 40 and 60 ppm) on lipid metabolism, LC-PUFA profile on neural tissues, as brain and eyes, and, complementarily, the analysis of nutritional metabolism, feeding behaviour and animal welfare.

Results

The preliminar analysis of results sugest than appetite, growht, nutritional metabolism, including lipids, and fish welfare can be affected for water salinity (QR). Curiously, the study of growth indices (QR) and cortisol values (Fig. 1) in plasma denoted a fish preference for lowest water salinity conditions. These results could highlight the **invasive potential of *F. heteroclitus* in freshwater ecosystems**. However, further analysis are required to evaluate how different salinity scenarios can modulate the lipid metabolism of fish.

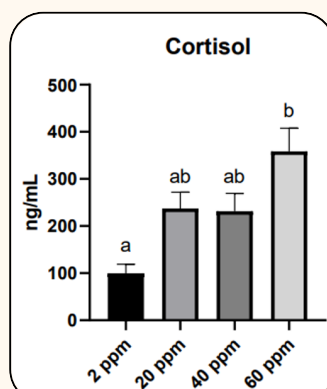


Fig. 1. Cortisol values on fish cultured under differents salinity concentration.



To see all results scan the QR code