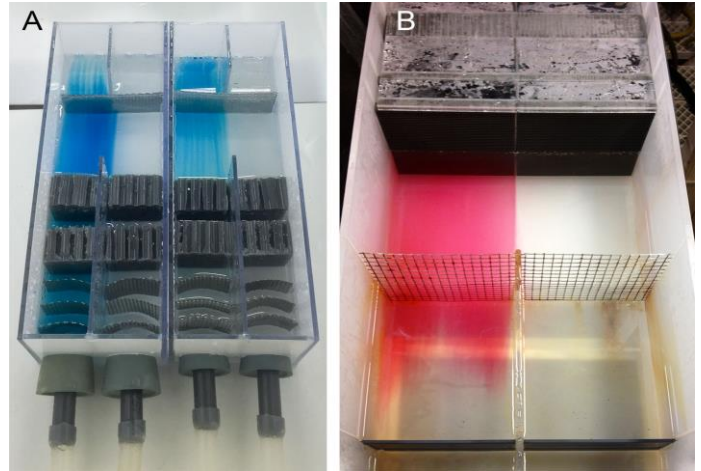# Two-current choice flumes for fish chemosensory behaviour - method validation and limited effects of high pCO$_2$

Fredrik Jutfelt[1], Josefin Sundin[2], Graham D Raby[3], Timothy D Clark[4]

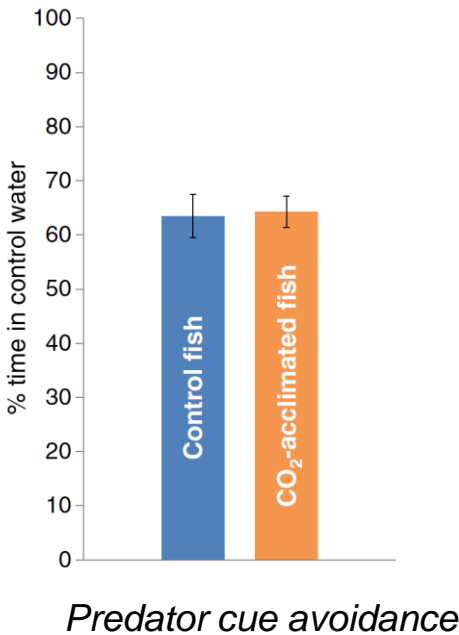*Two-current chemosensory choice flumes pictured from above during a dye test.*

Background:
Choice flumes are frequently used in ocean acidification research to assess preference/avoidance of chemical cues.
The absence of standardised methods makes comparisons across studies difficult.


Predator cue avoidance

Findings:
Both control and high CO$_2$ (1000 µatm) exposed fishes avoid predator cues. Flow controllers, baffles and multiple layers of honeycomb collimators are vital components to maintain stable laminar flow. Long observation times are needed to quantify side preference. We encourage the use of these approaches in all future studies to enable a comprehensive and robust understanding of any CO$_2$ effects on the chemosensory behaviour of fish.
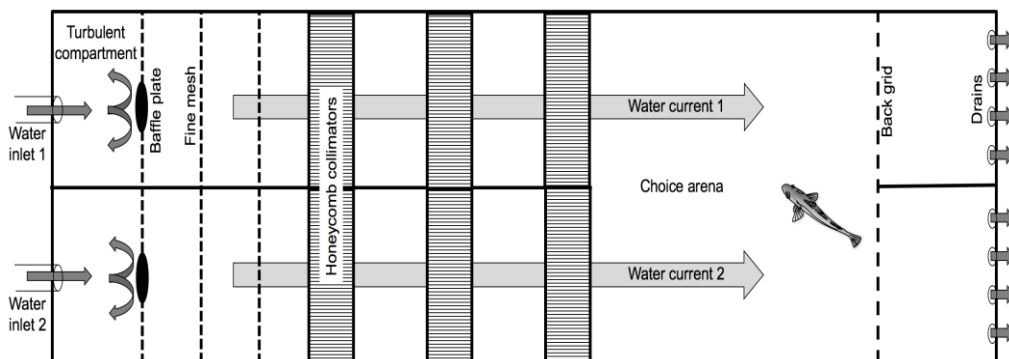
Schematic general design (overhead view).

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