

Long-Term Effects of Sustained Swimming on Chinook Salmon Form and Composition

Leteisha Prescott, Institute for Marine and Antarctic Studies, University of Tasmania

Supervisors: Chris Carter (UTAS), Matt Miller (Cawthron Institute), and Jayson Semmens (UTAS)

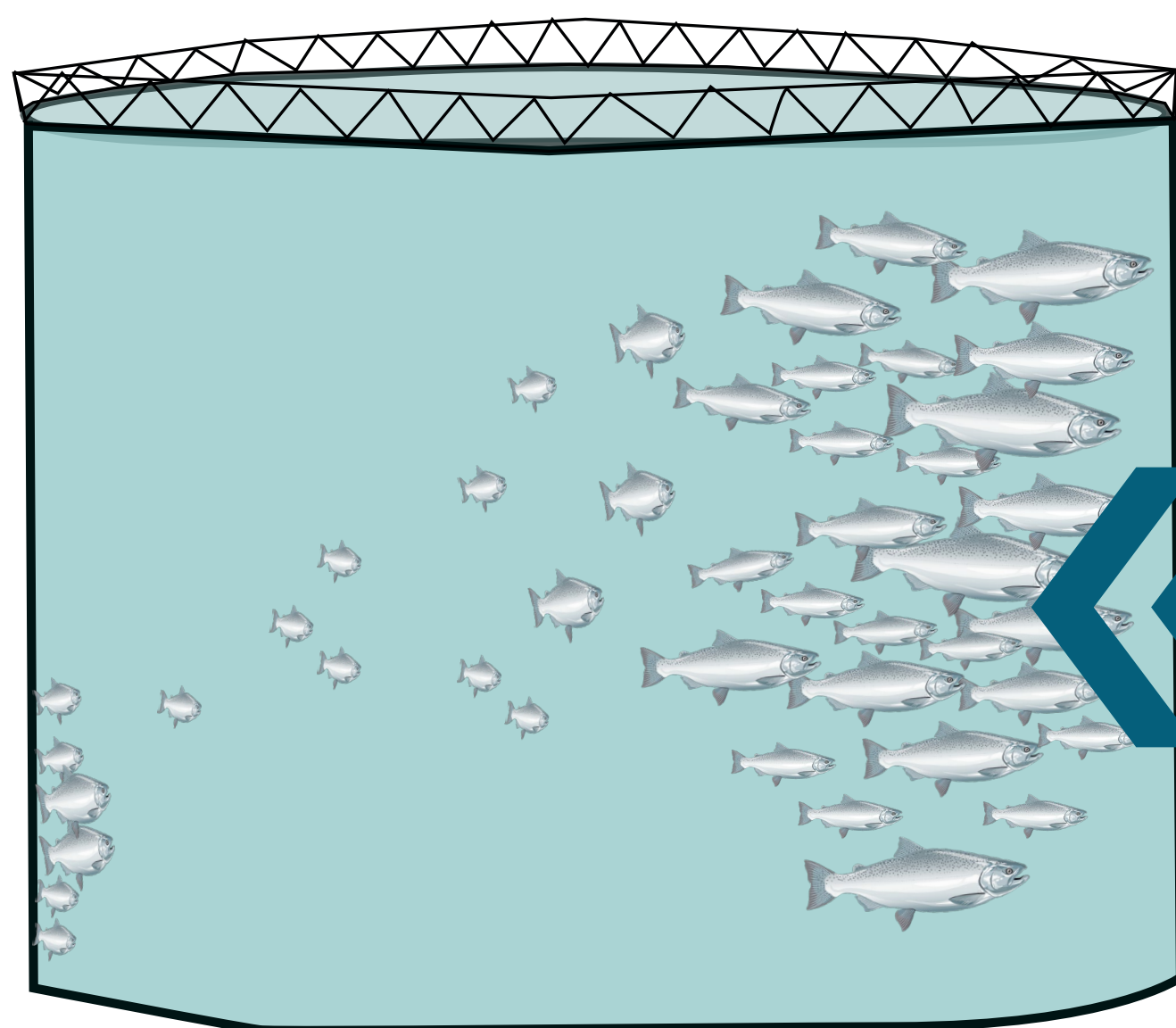
Advisors: Jane Symonds (Cawthron Institute) and Seumas Walker (Cawthron Institute)

I undertook a PhD investigating how sustained swimming may impact salmon physiology with the Blue Economy CRC because I have keen interests in understanding how changing environments influence physiological processes in fishes. I am passionate about my research having significant impacts for industry and communities, locally and globally, by using well-designed translational science.

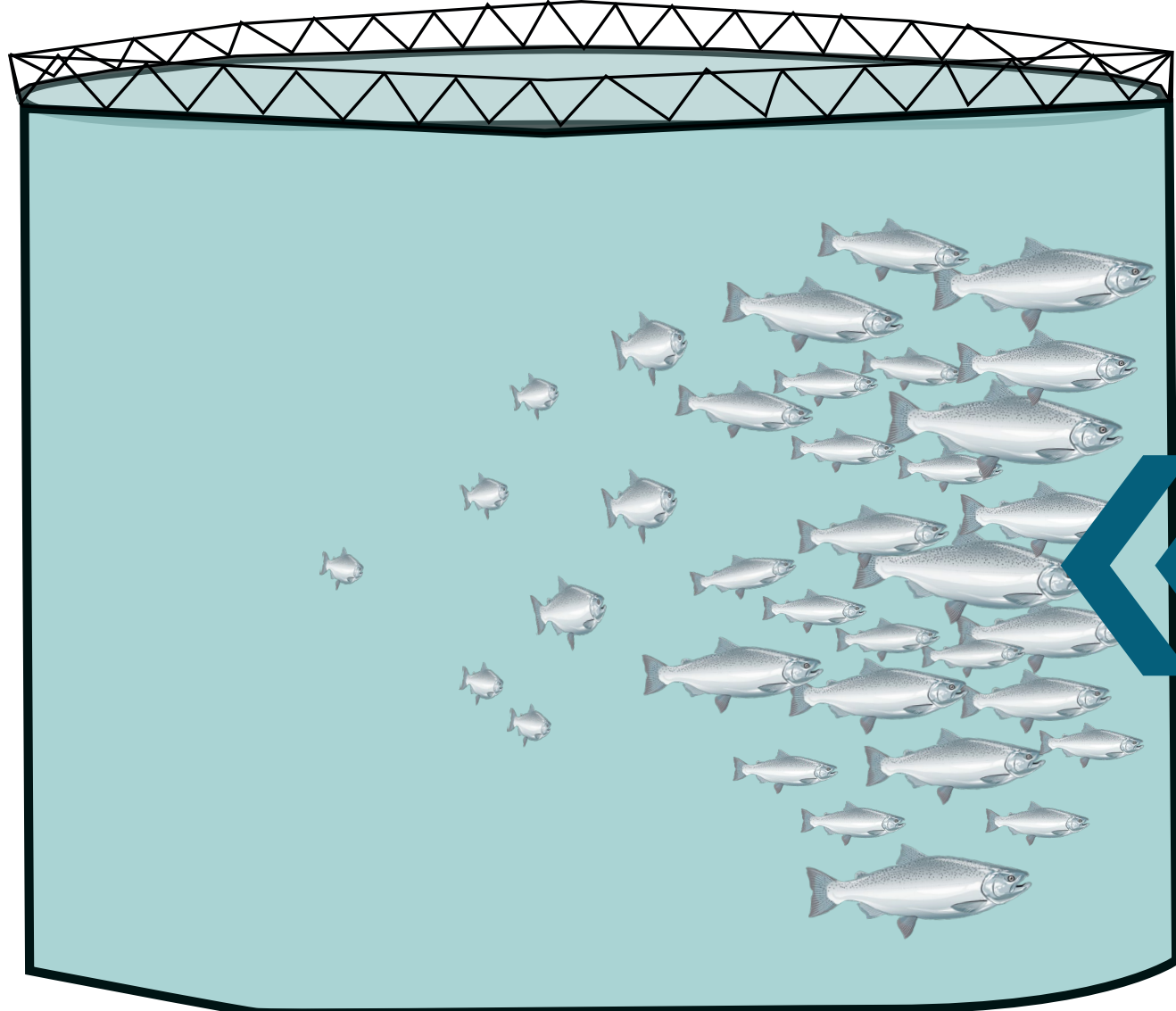
Following my PhD, I wish to continue addressing global challenges associated with commercially and ecologically important fishes through fundamental science approaches.



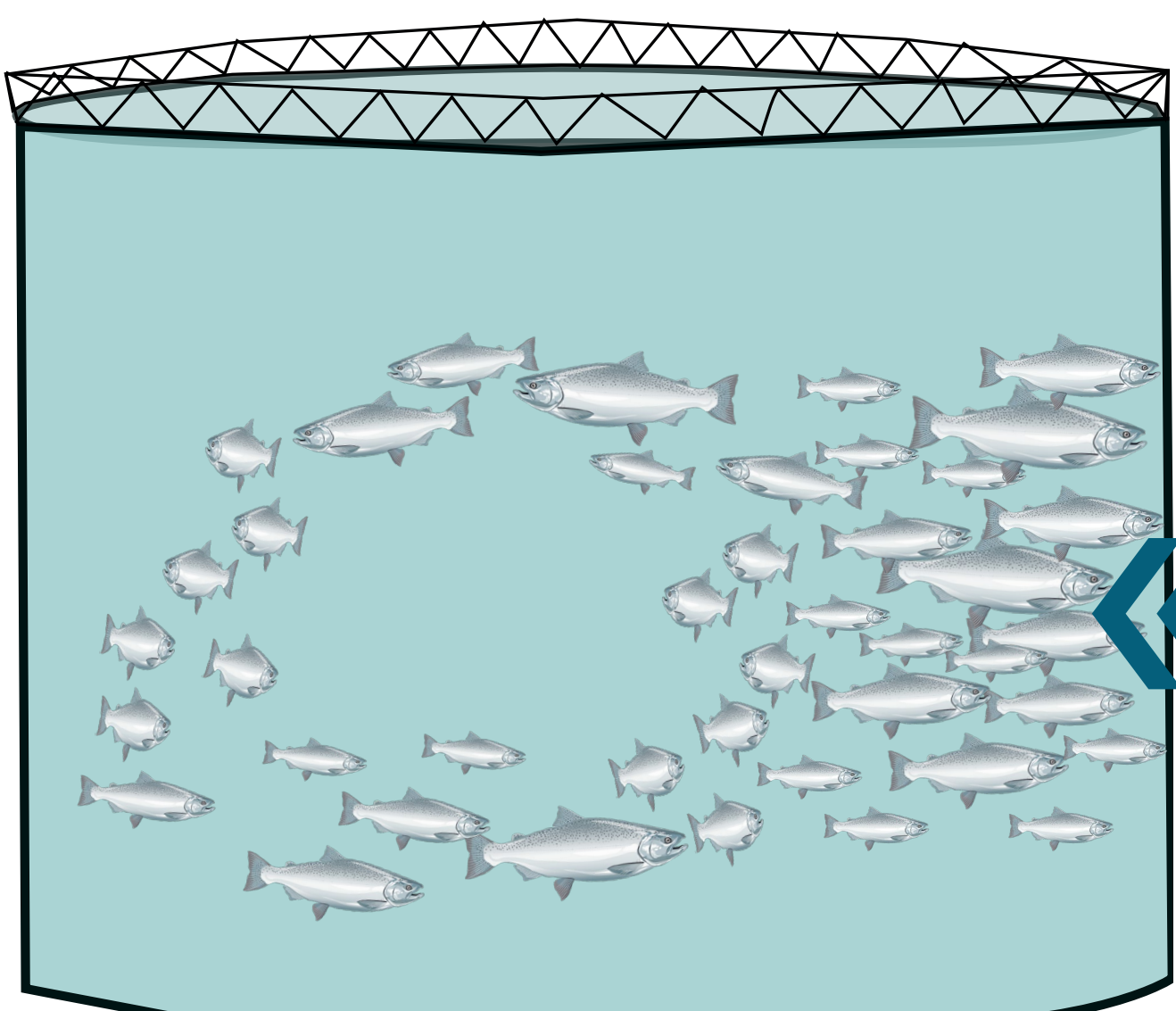
Reaching exhaustion



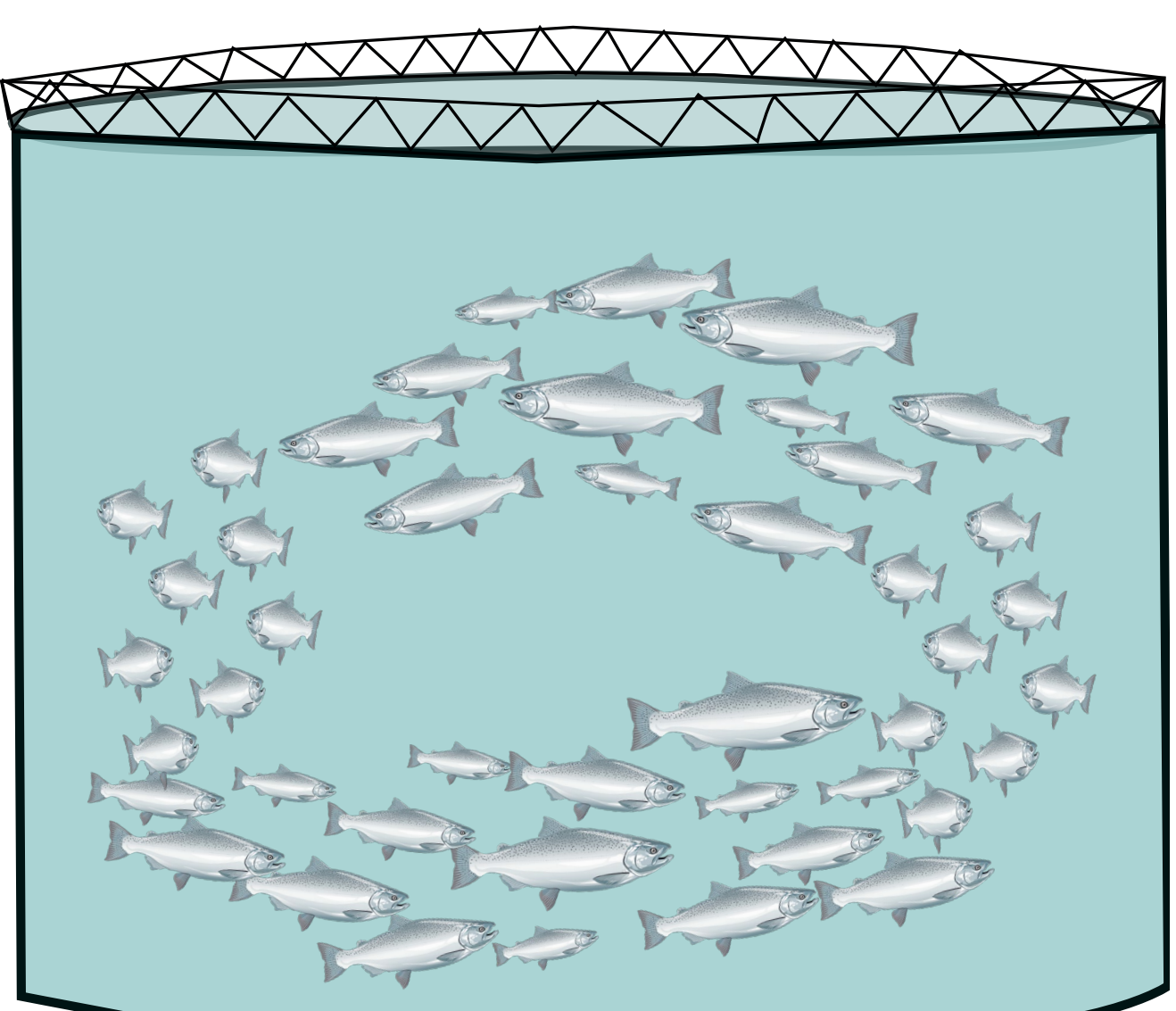
Positioning on current



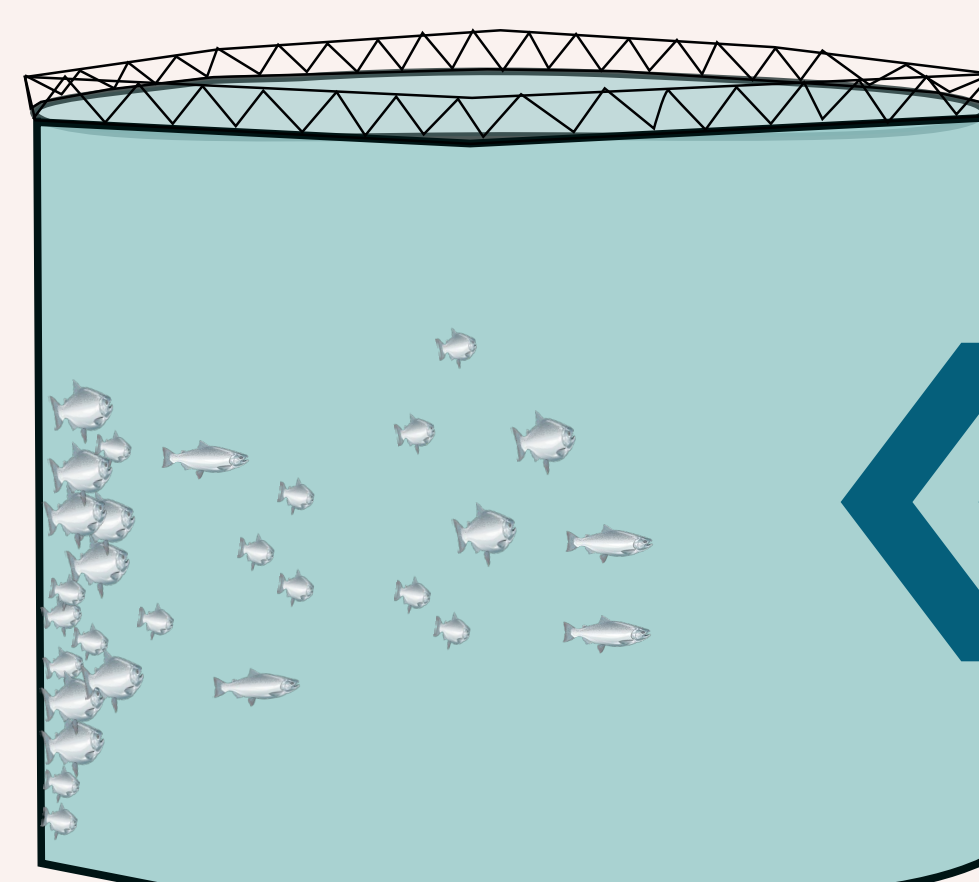
Schooling and positioning on current



Schooling



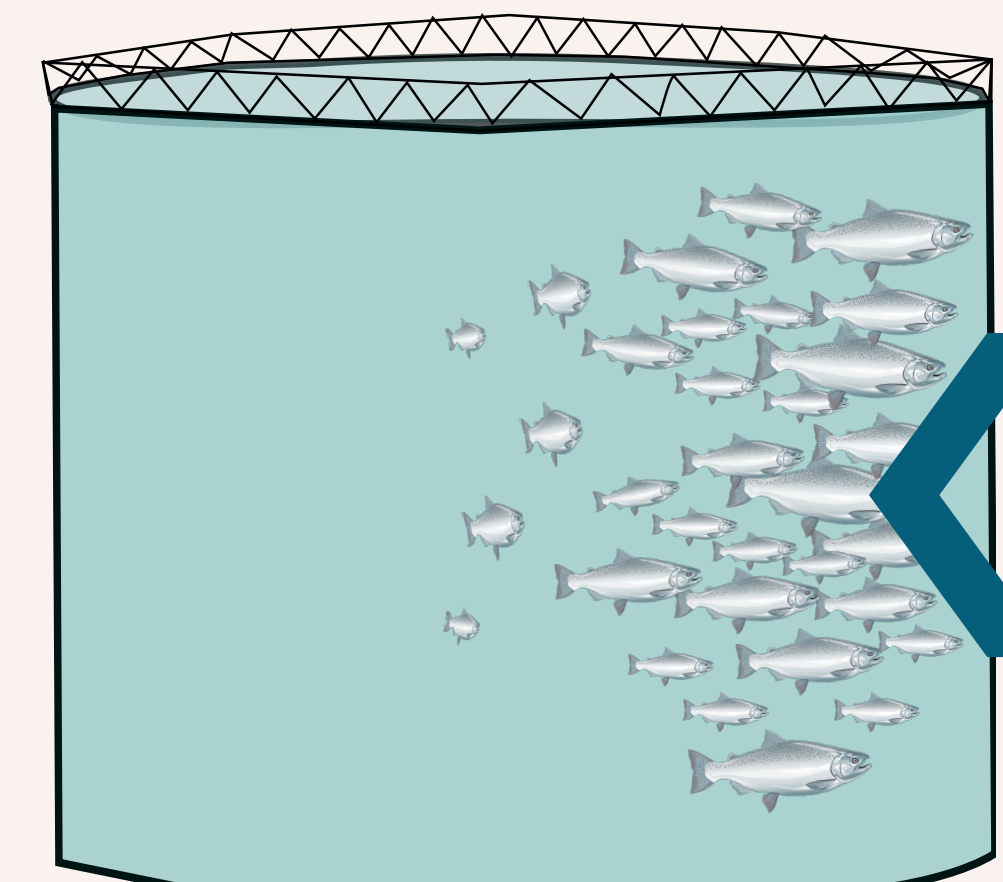
Summary



Not exercise-trained fish

- Reduced swimming performance
- Limited aerobic scope
- Increased offshore energy demands

PhD Thesis



Exercise-trained fish

- Enhanced swimming performance
- Larger aerobic scope
- Reduced offshore energy demands

One of the challenges for offshore finfish farming is the impact of strong currents and waves on farming infrastructure, operations, and animal performance.

My PhD project investigated several aspects of salmon physiology in response to sustained swimming and identified exercise training to be a valuable tool to equip farmed fish with the physiological abilities to thrive offshore. Further exploration is needed to unravel the complex relationship between swimming and salmon physiology.

I am now interested in exploring how pre-conditioning during early production stages can increase plasticity to varying environmental factors and aid the success of finfish farming offshore and in the Anthropocene.