



## Reilly Cox

### Project Engineer

02 8071 9874 | [reilly.cox@unsw.edu.au](mailto:reilly.cox@unsw.edu.au)

Dr Reilly Cox is a project engineer experienced in experimental and numerical analysis with a focus towards hydraulics. He completed his PhD assessing safe fish passage in closed conduit systems at UNSW. As part of his PhD, he utilised physical models, Lagrangian sensors and CFD analysis. He has demonstrated courses for UNSW School of Civil and Environmental Engineering over several years including Fluid Mechanics, Water and Wastewater Engineering and Advanced Water Engineering. He is an effective communicator presenting work to local and international audiences. Reilly is a keen problem solver who enjoys applying knowledge to real-world problems.

### Qualifications and affiliations

PhD (Civil Engineering), UNSW, 2025  
BE Hons 1 (Civil Engineering), UNSW, 2021  
BE Hons 1 (Environmental Engineering), UNSW, 2021

### Expertise

- Hydraulic engineering
- CFD analysis (Ansys Fluent)
- Fish passage (closed conduit)
- Lagrangian sensors

### Summary of relevant experience

#### Physical modelling

2025: Somerset dam gates  
2021-2024: Tube Fishways (PhD)  
2020: Microroughness on spillways

### Professional history

2025 - Current: Project Engineer, UNSW WRL  
2019 - 2024: Casual Academic UNSW, School of Civil and Environmental Engineering

#### Reservoir management

2025: Avon Dam artificial destratification desktop assessment and numerical modelling  
2025: Lake Hume - Stratification Modelling

#### Numerical analysis

2021-2024: Tube Fishways (PhD)

### Publications

**Cox, R. X.**, & Felder, S. 2025. Injury-free transport of fish through closed conduit components. *Journal of Ecohydraulics*, 1–16. <https://doi.org/10.1080/24705357.2025.2462296>.

**Cox, R.X.**, Kingsford, R.T., Suthers, I., Felder, S., 2023, Fish injury from movements across hydraulic structures: a review, *Water*, 15, 1888. <https://doi.org/10.3390/w15101888>.

**Cox, R.X.**, Senevirathna, L., Mulligan, S., & Felder, S., 2024, Lagrangian validation of CFD models assessing risk for fish injury. Proceedings of 24th Australasian Fluid Mechanics Conference, 1-5 December 2024, Canberra, Australia.

**Cox, R.X.**, Felder, S., 2023, Fish passage considerations in closed conduit systems Proceedings of 41st Hydrology and Water Resources Symposium, 13-15 November 2023, Sydney, Australia.

Modra, B., Montano, L., **Cox, R.**, Felder, S., 2023, Innovation in physical hydraulic modelling for dam design, Proceedings of 2023 ANCOLD Conference, 25-27 October, Cairns, Australia.

**Cox, R.X.**, Felder, S., 2023, Investigating Safe Fish Travel in Pipe Flows, Proceedings of 40<sup>th</sup> IAHR World Congress, 21-25 August, Vienna, Austria.

**Cox, R.X.**, Peirson, W. & Felder, S. Investigating the hydrodynamic risk for fish injury in pipe entries. Proceedings of 23rd Australasian Fluid Mechanics Conference, 4-8 December 2022, Sydney, Australia.