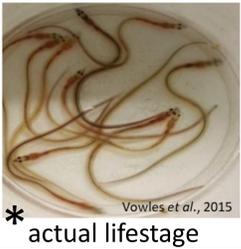


1) Introduction

- Little research has investigated how fish, including the critically endangered European eel, respond to changes in light conditions^[1]
- Such changes can be caused by river infrastructure^[2], urban light pollution, or the use of light in fishing^[3]
- We aimed to investigate response of two contrasting species to changes in light level, in terms of passage success and zone use

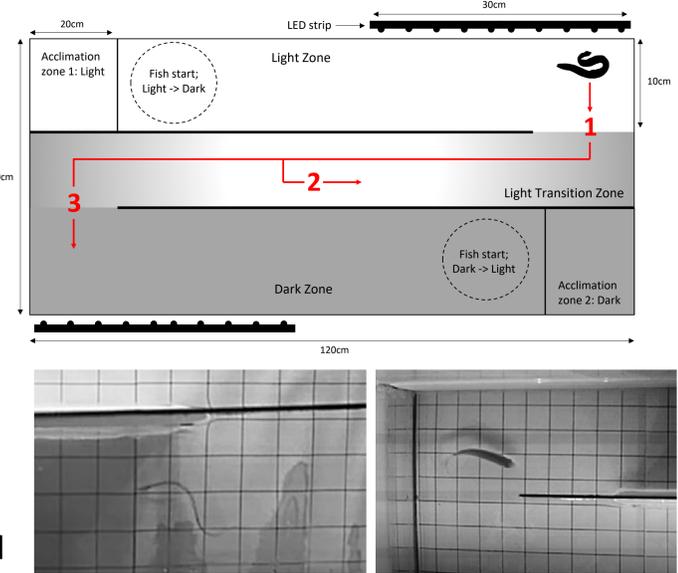
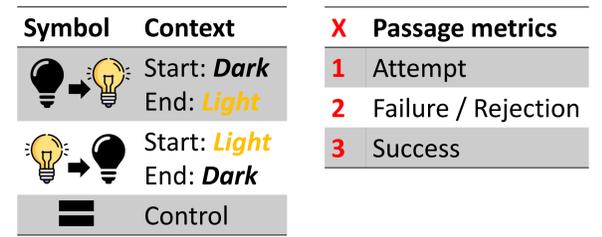


Study species	European eel (<i>Anguilla anguilla</i>)	Chub (<i>Squalius cephalus</i>)
Daily activity	Nocturnal, crepuscular	Diurnal
Migratory behaviour	Migratory	Non-migratory

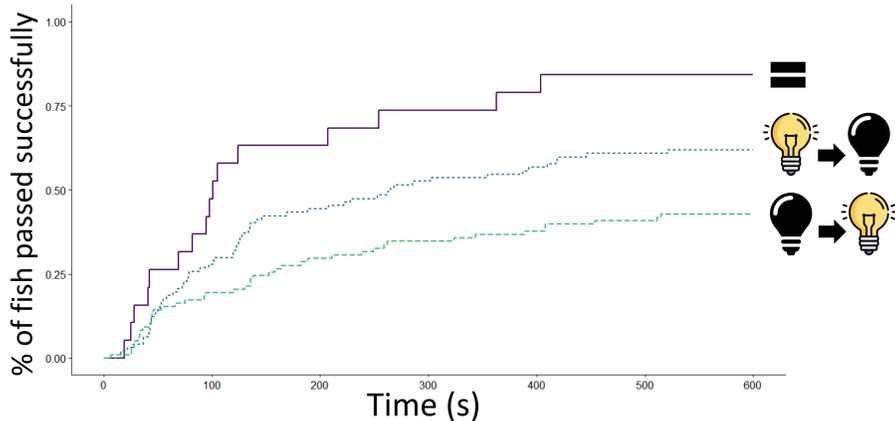
* actual lifestage

2) Methods

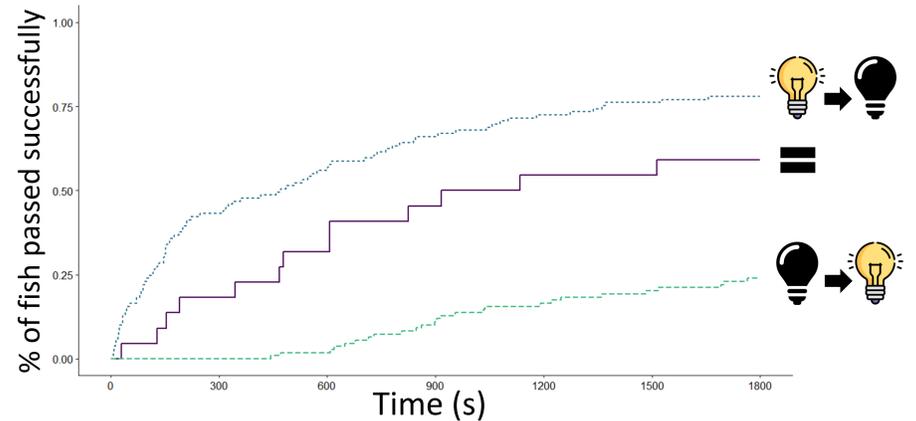
- Tank with light, dark, and intermediate transition zone
- Fish were tested starting in dark/light zones, or control (both zones equally lit) context
- Allowed to roam for 15 (eel) or 30 (chub) minutes
- Passage metrics and zone use (time/s) recorded



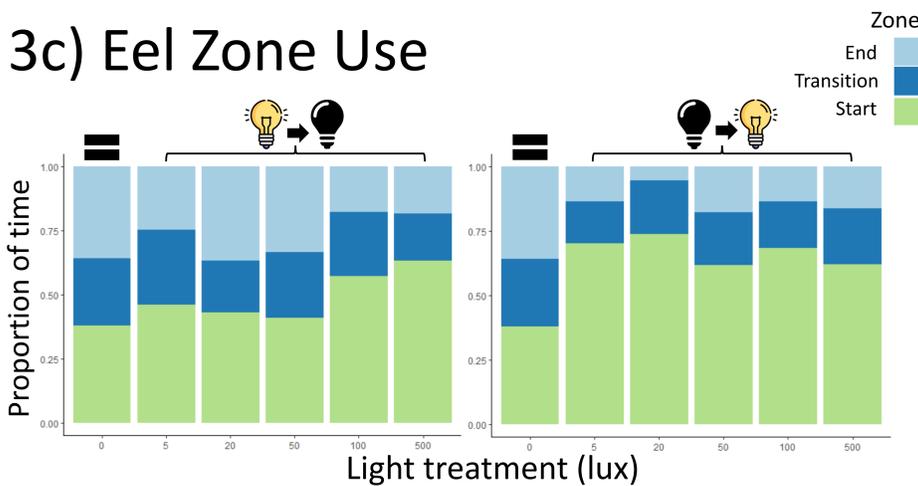
3a) Eel Passage Success



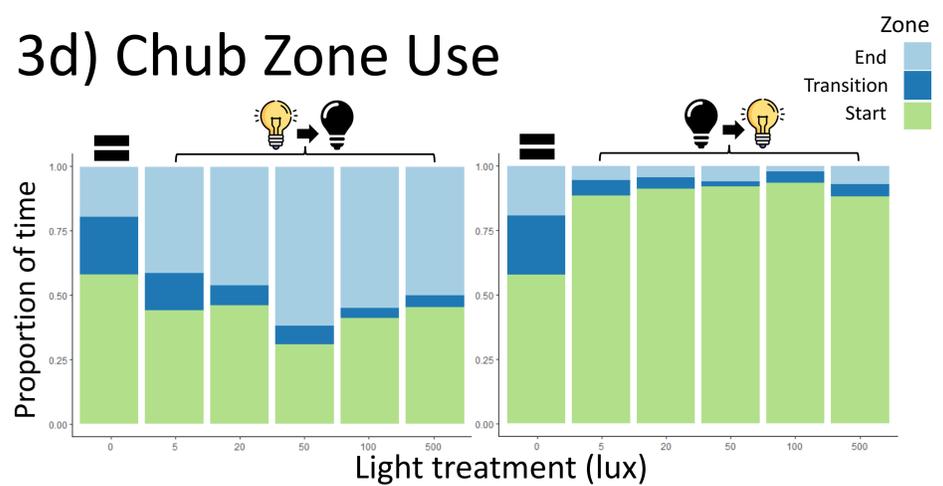
3b) Chub Passage Success



3c) Eel Zone Use



3d) Chub Zone Use



4) Discussion & Conclusions

Eel

- Strong preference for **dark** zones
- Aversion** to change in light level



Chub

- Strong preference for **dark** zones
- No apparent aversion** to change in light level



General cross-species preference for dark zones, but species-dependent response to change in light levels. Potential explanations include nocturnal vs diurnal behaviour, varying activity levels and stress. Effect of light change on eel passage success suggests potential impact of changing light conditions on glass eel migratory success.

References

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Glass eel photo – Dr Andrew Vowles
Light symbols – Flaticon.com
Fish images – HiClipart.com

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