

## What makes a habitat a home for juvenile fish? Assessing the importance of estuary habitat characteristics for growth and survival of European Sea bass

### SUPERVISOR

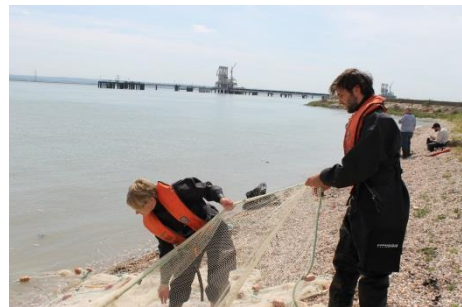
Dr Tom Cameron, University of Essex

**Scientific background:** Most variance in fish stock abundance is generated during early life stages, when juvenile marine fish can experience mortality rates of up to 20% per day - small shifts in mortality rates can generate large changes in spawning stock biomass. In addition these small changes can generate exceptional year-classes which can dominate commercially harvested stocks for several years. Consequently, a better understanding of the factors underpinning the growth and survival of juvenile fishes of commercial importance are critical for improved management of stocks.



### PhD research experience

With a focus on the European sea bass *Dicentrarchus labrax* in the Colne and Blackwater estuaries, this project will utilize a diverse and exciting suite of tools to assess juvenile bass growth and survival in different estuary habitats, e.g. field surveys of fish abundance/diversity across habitats, tides and seasons, behavioural analysis (telemetry to identify fine-scale fish movements) and analytical techniques to assess habitat associations (diet analysis, microbiome biomarkers). These methods will provide a clear picture of if, how and why juvenile fish utilize diverse and heterogeneous environments – or whether all estuary habitats are equal in the “eye” of a fish. A better understanding of the principal drivers of juvenile bass recruitment will support sustainable management of sea bass and inform policy for management, protection and restoration of inshore marine habitats.



### Training:

The student will be based at the University of Essex (Dr Tom Cameron’s group) but will benefit from broader collaborative links with UEA and CEFAS. The successful applicant will receive training in quantifying fish population abundance and mapping marine habitat heterogeneity (Dr T Cameron & Dr Leanne J. Hepburn (Essex)); DNA based diet quantification (Dr Martin Taylor (UEA)) and fish behaviour and movement biology (Dr Ewan Hunter (CEFAS)). The student will spend at least 3 months at CEFAS where they will

experience operational science in a government agency at the research-policy interface.

**Person specification:** The ideal candidate will have a good Honours or Masters degree in a relevant subject area (e.g. Biological Sciences) and have a strong interest in fish and fisheries biology. Relevant field and laboratory experience desirable but not essential. A full UK Driving license or equivalent rights to drive in the UK is preferred by the start of the position in October 2018.

This project has been shortlisted for funding by the EnvEast NERC Doctoral Training Partnership, comprising the Universities of East Anglia, Essex and Kent, with twenty other research partners. Undertaking a PhD with the EnvEast DTP will involve attendance at mandatory training events throughout the course of the PhD.

Shortlisted applicants will be invited to interview on 13/14 February 2018.

### **Funding**

Successful candidates who meet RCUK's eligibility criteria will be awarded a NERC studentship - in 2016/17, the stipend was £14,296. In most cases, UK and EU nationals who have been resident in the UK for 3 years are eligible for a full award. For non-UK EU-resident applicants NERC funding can be used to cover fees, RTSG and training costs, but not any part of the stipend. Individual institutes may, however, elect to provide a stipend from their own resources.

For further information, please visit [www.enveast.ac.uk/apply](http://www.enveast.ac.uk/apply).

**Closing date for this application is midnight 8 January 2018. Please apply online via <https://www.essex.ac.uk/pgapply/enter.aspx>**