

Marine Fish Nursery Function in the Blackwater & Colne Estuary

Introduction

The catchments which drain into the estuaries in the South East of England within the boundaries of the Balanced Seas project support high quality freshwater fish communities. Migratory species including salmon, sea trout and eel are common to almost all of these estuaries. Regulated fisheries for all of these migrants occur throughout. As part of the Marine and Coastal Access Act, 2009, the Environment Agency has been provided with responsibility for the management of other migratory species, namely smelt and lampreys, and byelaw making responsibility for shad. Early management strategies will tend to be precautionary until more is known about the distribution of the species and the pressures acting on them.

The smelt and eel have been recognised as important species for MCZ designation. A separate report on the distribution of smelt in England has been produced recently to JNCC and Natural England as part of the overall MCZ process. The recognition of marine nursery grounds is being viewed as supporting evidence for future designations. Separate reports are being developed for Wales to assist the Welsh Assembly Government.

Data Presented

Eight sites were fished between 2001-2006 in the Blackwater & Colne estuary system. Five of the sites were part of a collaborative study with Cefas to look at juvenile bass, using an otter trawl. The remaining 3 sites were intertidal sites fished in 2006, where a combination of methods have been used. Sites are displayed on the map overleaf. Illustrative data sets are produced in Figs 1 & 2 in the appendix and described below. In each case the length frequency histogram presented is typical of catches at that location and season over the period that sampling has taken place. Significant additional fish studies have taken place in the estuary since 2003, associated with fish utilisation of saltmarsh and new managed realignments. This work is reported in Colclough *et al*, 2005, the reference for which appears in the over-arching document for these reports. References to that data will be made here. Data sets will be described upstream from the base of the estuary.

Discussion

Sand-smelt and bass nurseries existed at both intertidal sites (Figs. 1 & 2). Large numbers of very young bass fry have been reported from the saltmarsh and managed realignments within the estuary since 2003 (Colclough *et al*, 2005). The authors believe that saltmarsh provides the optimum nursery ground for the very early life stages of species such as bass. The sprat nursery at Bradwell appeared to be present for most of the year (Fig. 1). Juvenile sprats were also captured at Osea Island. Juvenile herring have been taken in the Cefas trawls.

A large catch of 2000 plus juvenile herring was taken in the managed realignment at Abbots Hall in September 2003 (Colclough *et al*, 2005).

12 smelt were taken in trawls off Bradwell between 2001-2005. This data has been reported separately to JNCC.

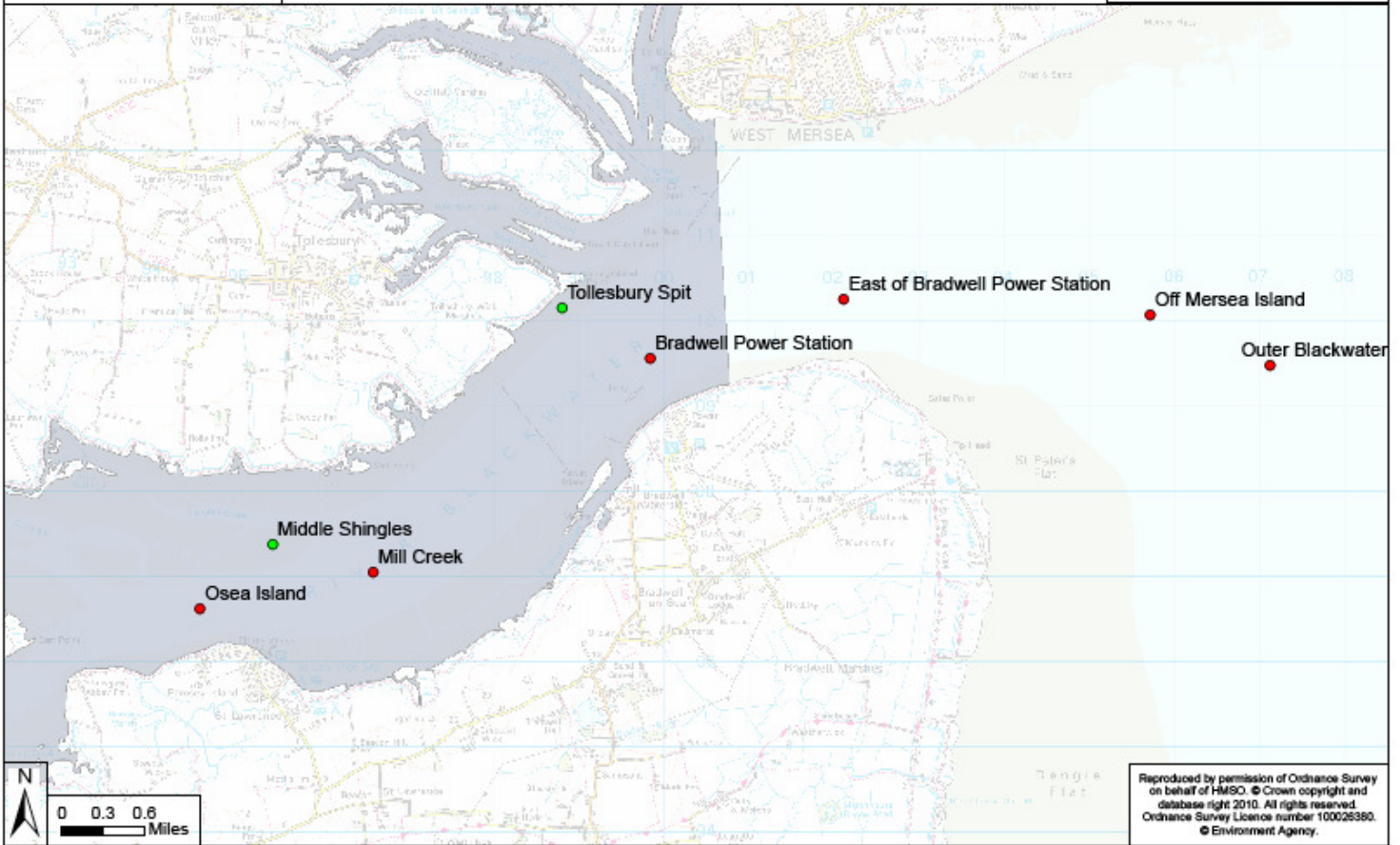
Steve Colclough

Marine and Estuarine Fisheries Senior Technical Advisor

Blackwater WFD Estuary Fish Sites 2000-2009

Legend

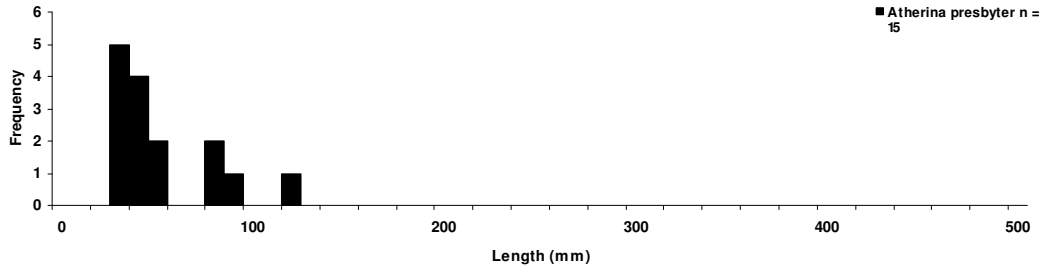
- Intertidal
- CEFAS
- CSV
- Powerscr



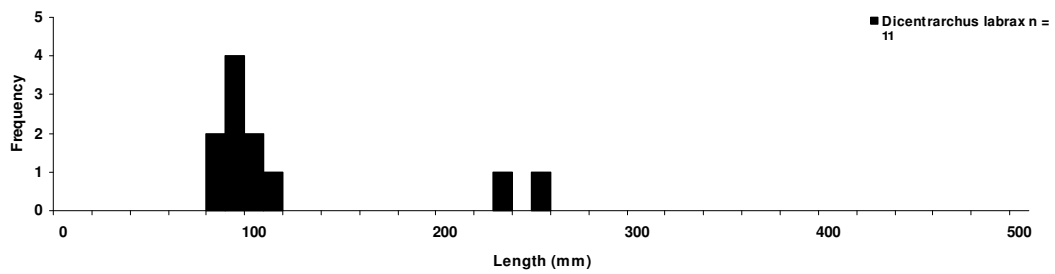
Appendix

Figure 1 Blackwater & Colne Bradwell Power Station – TL9985309551

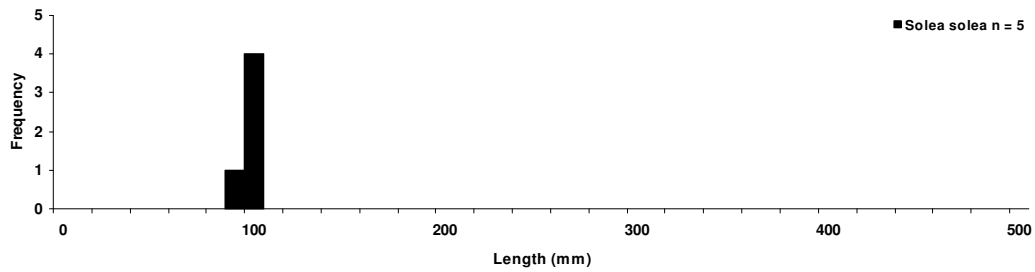
Sand-smelt Spring 2006



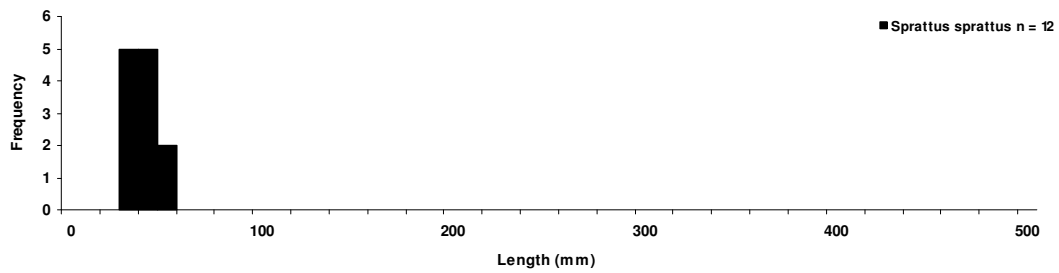
Bass Autumn 2006



Sole Autumn 2006



Sprat Spring 2006



Sprat Autumn 2006

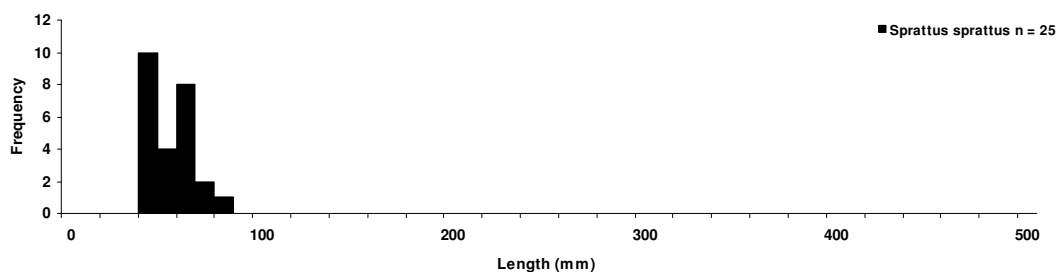
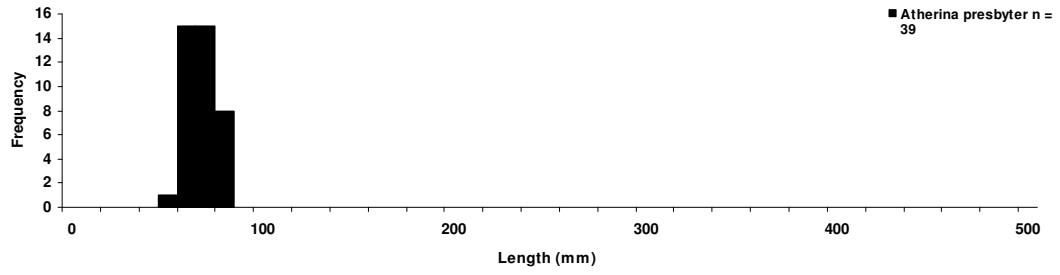


Figure 2 Blackwater & Colne Osea Island – TL9456406615

Sand-smelt Autumn 2006



Bass Autumn 2006

