

1.3 BROAD CHARACTER: FISHING

1.3.2 CHARACTER TYPE: AQUACULTURE

REGIONAL PERSPECTIVE: EAST ANGLIA

INTRODUCTION: DEFINING/DISTINGUISHING ATTRIBUTES

Overall approximately 30% of cultivated shellfish from the UK come from East Anglia (http://en.wikipedia.org/wiki/Shellfish_Association_of_Great_Britain). Many of these are sourced from North Norfolk although installations are also present in Walton Backwaters and the River Alde. The former are located in the small meandering channels in the south of the Walton Backwaters area, the latter in a named area of the Alde known as 'the Horse' within 'Home Reach'. These areas are often marked with withies and are sometimes uncovered at low tide. It is likely that other installations exist in all the major estuaries in the area although information is scarce.

The species cultivated in this area are generally oysters and mussels, although a much wider variety of shellfish are fished in the wild off the East Anglian coast and in the estuaries.

Shellfish farming is the only type of aquaculture currently undertaken in the coastal and offshore region, although much freshwater fish farming occurs inland.

HISTORICAL PROCESSES; COMPONENTS, FEATURES AND VARIABILITY

Historical examples of shellfish cultivation, mostly in the form of oyster pits, have been found all along the coastline of the study area. Most are square or rectangular and cut into saltmarsh, ranging from 2 m square to over 70 m long but can vary from banked to unembanked, planned or chaotic. Such features are notoriously difficult to date. However it is likely that most known examples are medieval or post medieval based on their position in relation to sea walls and therefore to dates of reclamation (Hegarty and Newsome 2005, 86).

Shellfish were certainly commercially farmed all along the East Anglian coast in both the medieval and post medieval periods. Recent projects such as the Rapid Coastal Zone Assessment Surveys (RCZAS) and National Mapping Programme (NMP) have frequently identified these features in Suffolk. Relict oyster pits are dense north of the Alde/Ore/Butley confluence, in the Lantern Marshes and Kings Marshes and several have been found below Burrow Hill on the banks of the Butley River.

Notable examples of disused shellfish cultivation include possible lined shellfish pits found at Breydon water during the Norfolk RCZAS and a culvert associated with oyster pits in the Orwell around Nacton, built by the Ipswich Oyster Company. A large group of oyster pits were found south of Orfordness, on the saltmarsh of Stony Ditch during the NMP. These were 14 x 5 m and 20 x 8 m in plan and maps of sea walls of different date indicate they may have been constructed after 1601 (Hegarty and Newsome 2005 98). Notably, Norden's survey of the Stanhope estate (1600-1601) showed two 'oyster boates' at work in the river Butley (Williamson 2005, 42).

1.3.2 CHARACTER TYPE: AQUACULTURE

Operation of a highly developed, post medieval, commercial shellfish industry on the Suffolk coast is suggested by two groups of oyster beds on the River Orwell. The first was located on the west bank of the river over an area measuring 150 x 15 x 20 m. The second was below Fagbury Cliffs, Felixstowe, and comprised eight large rectangular pits and a complex arrangement of sluices enclosed by a bank. These were recorded on Ordnance Survey map of 1881 but by 1904 were marked as disused. These probably coincide with a peak in oyster consumption in the mid 19th century when oysters formed a common food for the urban poor. Rights to shellfish belonged to manorial lords and were leased to individuals although frequent disputes are recorded (Williamson 2005, 42).

In the past European flat oyster (*Ostrea edulis* L.) was cultivated however these declined in the 20th century due to overfishing, disease and other factors. They were replaced with imported American oysters (*Crassostrea Virginica* (Gmelin)) and Portuguese oysters (*Crassostrea angulata* (Lamarck)) half grown and relaid for a season. American imports ceased in 1939 and, as a result of disease in the 1960s and 1970s, import of Portuguese oysters was banned. Research at this time concluded that Pacific Oysters could be successfully cultivated and this species was subsequently planted. Cultivation areas included the Blyth and Deben as well as Walton Backwaters (Spencer 1990) and the Shellfish Association of Great Britain now reckons that East Anglia contributes 30% of the total UK crop of this shellfish.

VALUES AND PERCEPTIONS

Aquaculture is far more common in the southern half of the region with a particular concentration in the Essex estuaries not particularly significant to the specific study area of this region as catching wild fish and shellfish is much more common and established. However the presence of the estuaries and the relict pits within suggest it was certainly once more prolific and probably continues in all of the estuaries as and when possible. Shellfish as a whole are however very important to the region from an economic and recreational point of view and is very popular with tourists.

RESEARCH, AMENITY AND EDUCATION

There is real scope to investigate the relict oyster pits of the region many of which were identified during the recent NMP and RCZAS projects. In the past it is clear that large scale shellfish cultivation was undertaken in the region and it may be possible to reconstruct the history of this industry.

Shellfish as a whole are important to the region as a tourist amenity in the form of small vendors in coastal resorts. It is very often these smaller industries which are supplied by the cultivation of shellfish.

Aquaculture can also have educational value in terms of public awareness of sustainability and over fishing.

CONDITION AND FORCES FOR CHANGE

Aquaculture in this region primarily comprises shellfish farming. The industry appears to be relatively successful and is a sustainable way of producing shellfish for consumption. This is crucial in terms of the recent problems with over fishing and the quota system in the North Sea.

Shellfish cultivation has very little impact on the surrounding environment and can have a positive impact on decreasing stocks. It is affected by the state of shellfish stocks in the North Sea and will also be affected by the Marine and Coastal Access Act, in particular through the replacement of Sea Fisheries Committees (SFCs) with Inshore Fisheries and Conservation Authorities (IFCAs) from April 2011.

RARITY AND VULNERABILITY

Although shellfish cultivation in this area is not prolific it is surviving well and is not rare in a national sense. It is a low impact activity and is not likely to be easily affected by many changes, as such is not particularly vulnerable. However on a wider scale the shellfish industry as a whole is vulnerable in the same way as all the local fisheries as stocks deplete. Shellfish are also particularly vulnerable to water pollution along the coast and in estuaries from sewage discharges and from fertiliser and nitrate leaks and run-off from agriculture.

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