

## **Broad Character: Fishing**

### **Character Type: Aquaculture**

#### **Irish Sea Regional Perspective**

##### **Introduction: Defining/Distinguishing Attributes**

Shellfish farming is the only form of aquaculture currently active in the region. There are only two shellfish farms operating in the North West: on Walney Island and at Sunderland Point. Shellfish farming at Sunderland Point is on the west bank of the Lune Estuary. On Walney, however, the shellfish farm is a hatchery, nursery and on-growing farm for oysters, established in lagoons on the site of a former gravel quarry (<http://morecambabayoysters.co.uk>). Most shellfish in the region is harvested from natural populations, and the region has extensive areas designated for shellfish collection.

##### **Historical Processes; Components, Features And Variability**

The exploitation of shellfish has a long history in England, and from the Mesolithic the coast of North West England would have been a productive area because of the relative abundance of food, which would almost certainly have included oysters (Hodgson and Brennan 2006). The town of Whitstable (Kent) is particularly noted for oyster farming from beds on the Kentish Flats that have been used since Roman times, and that business expanded to include the shellfish farm at Walney Island, where there is an oyster hatchery and nursery.

Mussels are generally collected from natural skears in Morecambe Bay (<http://www.nwnwsfc.org>), rather than farmed commercially. They are subject to careful husbandry, however, and shellfish farms such as that at Sunderland Point ensure that mussels are moved around to take advantage of the best conditions as they grow.

##### **Values And Perceptions**

Modern aquaculture is increasingly coming to the attention of the wider general public with a concern over sustainable practice. Therefore, modern perceptions of aquaculture are often related to the destruction of the fish resource and the seabed. In the North West, aquaculture plays a small role in relation to the exploitation of natural shellfish populations, though these are actively managed, involving some degree of husbandry. The husbandry and collection of shellfish is deeply ingrained in the culture of areas such as Morecambe Bay and is seen as an important cultural tradition by populations of local fishing villages such as Sunderland Point and Flookburgh.

##### **Research, Amenity And Education**

Overall, the lack of systematic investigation into the archaeology of coastal shellfish fisheries has been identified in the past as a serious omission and a weakness in archaeology (Fulford *et al* 1997). Therefore, there is considerable potential for further research into the history of aquaculture, in particular its early development and the various techniques employed from catching to processing. Such research could inform strategies for the sustainability of this Character Type, utilising the historic landscape/seascape to complement the identification of patterns, trends and materials used.

Further research, being undertaken by the Common Fisheries Policy (CFP), is also taking place on the current fishing industry addressing socio-economic impacts (<http://ec.europa.eu/fisheries>).

### **Condition And Forces For Change**

Shellfish remains a popular foodstuff. Shellfish farming in the North West is undertaken using traditional methods (i.e. harvesting by hand).

Recent research has shown that global warming is likely to uncouple and alter the phase relationship between temperature and photoperiod (the period of time per day that an organism is exposed to daylight) and this is likely to have significant consequences for the reproduction of shellfish. Although this is unlikely to lead to extinction, it may cause species to disappear completely from particular areas. However, this will depend on speed of adaptation in relation to climate change and the degree of mixing between populations across the range of species (Lawrence and Soame 2004). The exploitation of shellfish in Morecambe Bay is closely monitored, and the shellfish beds, particularly cockles, are closed intermittently to prevent overexploitation. The use of husbandry methods to control the growth and spread of mussels, however, helps to ensure a healthy stock.

### **Rarity And Vulnerability**

Aquaculture is not a common form of fishing in the North West region, with only one commercial oyster farm. Aquaculture is generally expressed through the husbandry of natural shellfish stocks and is closely tied in to the collection of natural shellfish resources. Aquaculture, therefore, is also vulnerable to the same forces which affect the collection of shellfish resources, that is overexploitation and climate change.

Continued control over exploitation of fish stocks is necessary to enable their sustainability, with European Union (EU) reforms and measures progressing towards that end. This has implications for the people whose livelihoods depend on marine food resources and on the character of places that accommodate those livelihoods. Regulation aimed at the sustainable harvesting and greater conservation of wild fish stocks may well alter the future balance between fishing and aquaculture in providing fish and shellfish protein, and the methods and species used in aquaculture. Understanding historic aquaculture practices and their long-term sustainability may offer a valuable input to these future trends.

### **Published Sources**

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