

Proposed Morecambe Bay Fishery Order

Background

Morecambe Bay is the source of most of the seed mussels that form the basis of the Menai Strait mussel fishery. The North Western Sea Fisheries Committee set out proposals for a new fisheries management regime for Morecambe Bay in 2010, and these were considered by MSFOMA in January. This report provides an update on progress.

Recommendations

1. That a response about the proposed Morecambe Bay Fishery Order should be made to the North West Inshore Fisheries and Conservation Authority (NWIFCA) in the light of the presentation that will be given to the Association meeting by Ms Mandy Knott of the NWIFCA.

1. Background

- 1.1 A "Fishery Order" that would change the management regime for cockles and mussels in Morecambe Bay has been proposed by the North Western Sea Fisheries Committee (NWSFC). It is proposed that a "hybrid Order" (enabling both the regulation of fishing activity and creating opportunities for shellfish farming) should be made under the Sea Fisheries (Shellfish) Act 1967.
- 1.2 A consultation exercise on the proposed Morecambe Bay Fishery Order was initiated by the NWSFC in November 2010. A report on this consultation was considered by MSFOMA in January 2011.
- 1.3 Following the MSFOMA meeting in January, the Chairman of MSFOMA met with the NWSFC in Carnforth in March, accompanied by Mr James Wilson and Dr Jim Andrews. At that meeting, the NWSFC (now the North West Inshore Fisheries and Conservation Authority, NWIFCA), were invited to attend the next MSFOMA meeting.
- 1.4 Mandy Knott (Scientific Officer) from the NWIFCA is due to attend the MSFOMA meeting to give a presentation about the proposals for future management of Morecambe Bay. She has also prepared some paperwork (attached at Annex 1) as background information. The text has been highlighted by the NWIFCA to indicate areas likely to be of interest to MSFOMA.
- 1.5 The attached paperwork is public knowledge; however the NWIFCA have requested that it is not circulated more widely. If any of your colleagues would like sight of the paperwork, they can contact Mandy Knott (m.knott@nw-ifca.gov.uk) to obtain a copy. This request has been made to ensure that the NWIFCA has a consolidated list of interested parties who can be informed if any changes are made to the proposals in the future.

May 2011

Annex 1: Information from the NWIFCA

1. Introduction

1.1 The Proposal

The Marine and Coastal Access Act 2009 proposes a number of measures to modernise and strengthen inshore fisheries management in England. One such measure taking place on 1st April 2011 replaces Sea Fisheries Committees (SFCs) with Inshore Fisheries and Conservation Authorities (IFCAs). The North Western IFCA (NWIFCA) was formed by the amalgamation of the North West SFC with Cumbria SFC and is the relevant body for the regulation of inshore sea fisheries from the Wirral Peninsula to the Solway Firth. It is responsible for the management of a number of important areas for shellfishing, the largest of which is Morecambe Bay. Management is accomplished through use of byelaws. (NB. Any reference to byelaws within this Management Plan refers to those of the previous NWSFC, which relate directly to the Morecambe Bay fishery).

Due to changing economics over recent years, managing shellfisheries through byelaws alone has become increasingly costly, difficult and burdensome in terms of enforcement and administration. This is particularly so in the case of mussels and cockles in Morecambe Bay.

In order to establish greater control of fishing intensity, meet environmental duties (particularly under the Conservation of Habitats and Species Regulations 2010 (the 'Habitats Regulations') and the NERC Act 2006), develop mariculture of shellfish and better balance the interests of stakeholders, the NWIFCA is applying for a Hybrid Fishery Order under the Sea Fisheries (Shellfish) Act 1967 (as amended by the Marine and Coastal Access Act 2009) for Morecambe Bay and the Duddon Estuary (Fig. 1). As well as cockles and mussels, the Order will regulate other molluscan shellfish species such as oysters, clams, scallops and razorfish.

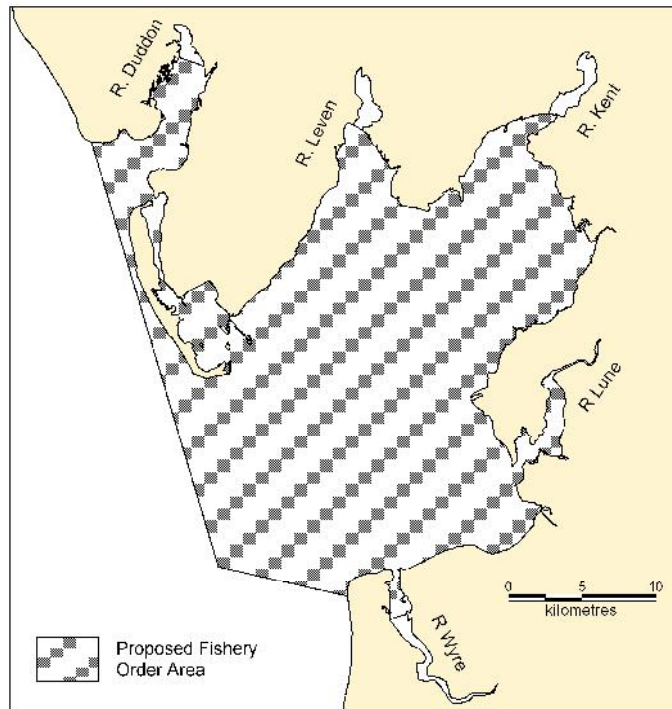


Figure 1: The proposed area for a Morecambe Bay Fishery Order.

1.2 Objective

The intention of the Hybrid Fishery Order is to build on established management principles, embedding the best practices from the current regime and using the wider and more flexible legislative framework under a Regulating and Several (Hybrid) Order to develop a modern, professional and sustainable fishery with provision for the development of cultivation and aquaculture.

1.3 Nature and purpose of the Management Plan

As grantee of a Fishery Order the NWIFCA is required to produce a management plan to accompany its application. This document, produced in consultation with stakeholders and other relevant bodies, constitutes the Management Plan for the first five years of the life of the Order (anticipated as 2012 – 2017).

The purpose of the Management Plan is to define the fisheries, assess and account for their possible socio-economic and environmental effects and give a framework for their sustainable management. A programme for the ongoing review of the Management Plan is also included.

1.4 North Western Inshore Fisheries and Conservation Authority

Inshore Fisheries and Conservation Authorities (IFCAs) are the inshore fisheries management agencies in England and (except for some EC grants for fisheries enforcement) are funded by an annual levy on their constituent local Councils.

Apart from certain estuaries such as the Dee and Severn where the Environment Agency has responsibility for migratory fish, IFCAs cover most of the coast to a seaward limit of six nautical miles from baselines, and a landward limit of the constituent local authority

boundaries.

Under the Marine and Coastal Access Act 2009 (Part 6, Chapter 1, Section 155), IFCAs can use Fishery Orders made under the Sea Fisheries (Shellfish) Act 1967 (as amended by the Marine and Coastal Access Act 2009) to manage molluscan shellfish stocks.

IFCAs are made up of Members representing the constituent local authorities, Natural England and the Environment Agency (EA), as well as industry representatives and experts in the marine environment appointed by the Marine Management Organisation (MMO), an Executive Agency of Defra. Officers are appointed to enforce byelaws, advise members and make recommendations regarding the management of the fisheries.

The NWIFCA (the Authority) has main offices in Carnforth and Whitehaven, with staff including the Chief Executive, Enforcement Director, Scientific Officers and support staff. Six Fishery Officers are based along the coast, with dedicated patrol vessels and associated Master, Deputy and engineer.

1.5 Regional Geography and Economics

Morecambe Bay is the second largest area of embayment in Britain after the Wash. Bordered by the South Lakeland Fells to the north and west, the Limestone Hills of Whitbarrow, Arnside Knot and Wharton Crag in the east and the low-lying Fylde peninsula to the south, it is characterised by extensive intertidal sand flats (the most extensive in the UK), fast flowing, migratory river channels and rocky post glacial moraine scars or “skears”. These features, combined with a large tidal range (up to 10.5m) and broad funnel-like shape, create a highly dynamic, diverse and productive environment.

The main centres of population around the Bay are Lancaster, Morecambe and Heysham to the east with Barrow-in-Furness and Fleetwood to the north and south respectively. Millom, Askham and Broughton-in-Furness are the main towns around the Duddon Estuary. Outside these areas the Bay is mostly bounded by agricultural or unbuilt land which gives it a high value as a recreational resource and as an internationally important area for wildlife.

The Bay forms part of the Natura 2000 network, being designated as a Special Protection Area (SPA) and a Special Area of Conservation (SAC) under the EU Birds and Habitats Directives. It is also designated as a Ramsar site as an internationally important wetland. The conservation interests include the intertidal and subtidal mud and sandflats, skear or reef habitats on which the shellfisheries are undertaken, together with the birds and other species which they support. A list of the conservation interest features is included at [Appendix 1](#).

Important economic activities include agriculture, leisure and tourism, shipping and navigation, pharmaceuticals, energy and commercial and recreational fishing.

From a fisheries point of view, aside from cockles and mussels, the Bay is historically famous for shrimps and prawns. Shrimping has declined over recent years and the reasons for this are unclear. The area also has an edible (‘brown’) crab and lobster fishery in the north western part of the Bay out of the Barrow / Walney Island area. This is a locally important fishery, but catches have been in decline over the last couple of years.

While finfish is mostly bass, plaice, dab and fluke with also whitebait, mullet and codling, relatively few trawling boats operate in the NWIFCA District and much of the fishing concerned with inshore waters is carried out by angling boats. One of the biggest changes in the southern part of the District including Morecambe Bay has been the decline in the importance of trawling. The port of Fleetwood is a pale shadow of its former self, and it would be unrecognisable to the skippers of the post-war era.

Bass have always been caught in the north west and is now very important to inshore netmen, as well as being a prime angling fish. There is a bass nursery area around the Heysham nuclear power stations to protect the smaller, schooling fish which are attracted by the warm outflow water. A healthy, commercial wild salmon fishery using a variety of methods, including the traditional “haaf” nets, is managed under licence by the Environment Agency.

1.6 Consultation

1.6.1. Background

The previous SFC Committee records show discussions among officers about a Fishery Order to manage shell fishing in Morecambe Bay started around 1995 and in 1997 got as far as landowners being consulted and an attempt at drafting an Order. However, for various reasons, it went no further at the time and by 2001 it seemed to have fallen off the agenda completely.

Then in 2005, under a new Chief Executive, the idea was revisited and formally adopted as a project and work began in earnest in July 2006.

1.6.2 Stakeholder Consultation

Throughout the development of the application for the Fishery Order stakeholders have been consulted and informed and their views taken into full consideration in drawing up of this Management Plan. A matrix providing full details of this consultation process is attached at [Annex A](#).

Stakeholders include:

- landowners
- initially an Environmental Steering Group (ESG) consisting of Natural England, RSPB and the NWIFCA
- subsequently a wider Environmental Forum (EF) consisting of Natural England, RSPB, Cumbria and Lancashire Wildlife Trusts and the Arnsdale & Silverdale Area of Outstanding Natural Beauty
- Morecambe Bay Fishermens Associations
- NWSFC shellfish gatherer permit holders (in 2006 a questionnaire was issued to all shellfish permit holders within the district. [Appendix 2](#) provides a copy of the 2006 questionnaire and summary of responses)
- shellfish industry
- local authorities
- local MPs
- general public
- Morecambe Bay Partnership
- Shellfish Liaison Group
- energy and utility companies.

DEFRA was consulted over the technical aspects of an Order and other organisations (including Eastern Sea Fisheries Joint Committee, Kent & Essex Sea Fisheries Committee, the Environment Agency and the Solway Shellfish Management Association) were consulted about their experience in applying for and running Fishery Orders.

An original application, submitted in December 2007, was held up pending the resolution of other legal proceedings relevant to this application involving the Crown Estate. This case was resolved in 2009 with a judgement from the Appeal Court which cleared the way for the Fishery Order to proceed, since when further efforts have been made to inform stakeholders of the current situation.

1.6.3. Responses and Objections

Responses to consultations have been overwhelmingly supportive of the basic principles of the proposed Order. One landowner would not give consent and asked specifically for their holdings to be excluded from the Order. Whilst the application for a draft Order could proceed without this consent, officers felt in this instance that excluding this particular landowner's holdings would not adversely affect the integrity of the plan and would reduce the possibility of an "in principle" objection at the formal consultation stage.

A significantly more serious obstacle arose in 2006 from conditional clauses included with the Crown Estates response to the original request for consent. This issue has now been resolved by the aforementioned Appeal Court judgement. DEFRA has also made changes under the Marine and Coastal Access Act 2009, whereby it is no longer a statutory requirement to have the consent of the Crown Estates before an Order can be granted.

There has been much debate and deliberation around the number of licences that should be granted for hand-gathering of shellfish under the Order to ensure a sustainable fishery within Morecambe Bay. This has been resolved by the provision of additional temporary licences to be issued when there are exceptional stocks of exploitable shellfish.

2. The Current Fishery

In 2007, officers estimated that in a year when cockle recruitment is exceptional (an approximate 1 in 20 year event according to SFC records and local fishing knowledge) the maximum area available for fishing in Morecambe Bay could extend to up to 7,000ha for cockles and 1,000ha for mussels. The positions and extent of the beds mapped in 2007 are shown in Figure 2. It should be noted that while there are cockle and mussel resources elsewhere in the NWIFCA district, when stocks are dense Morecambe Bay is the largest and most commercially attractive shellfish gathering area by far.

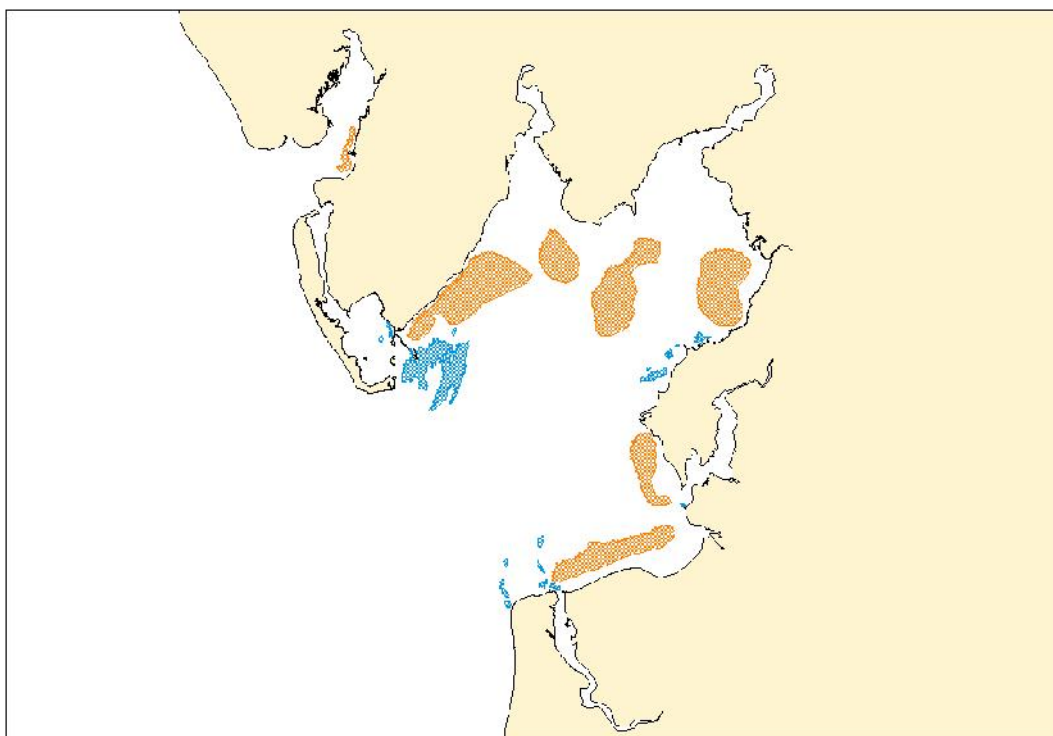


Figure 2. The distribution of cockle and mussel beds (orange and blue respectively) within Morecambe Bay and the Duddon Estuary in 2007.

2.1 Scale and Methods

2.1.1 Cockles

The cockle fishery is highly variable in its production and consequently, its prosecution. Past records show this variability in stock levels and associated fishing activity as a long standing feature of the fishery, and details are given in [Annex B](#). It is illustrated particularly well by recent experience, whereby high stock levels between 2003 – 05 and 2007 - 08 had been preceded by a long period of low fishable stocks in the mid 1990s with effort levels closely corresponding to those fluctuations. In early 2006 the Bay was closed for cockling to protect stocks after two seasons of poor or non-existent recruitment (Cook, 2007. pers.comm.). A widespread spatfall in 2006 with good survival over the winter and excellent on-growth during the spring and summer of 2007 meant the Bay reverted to fishing together with the rest of the district in September 2007.

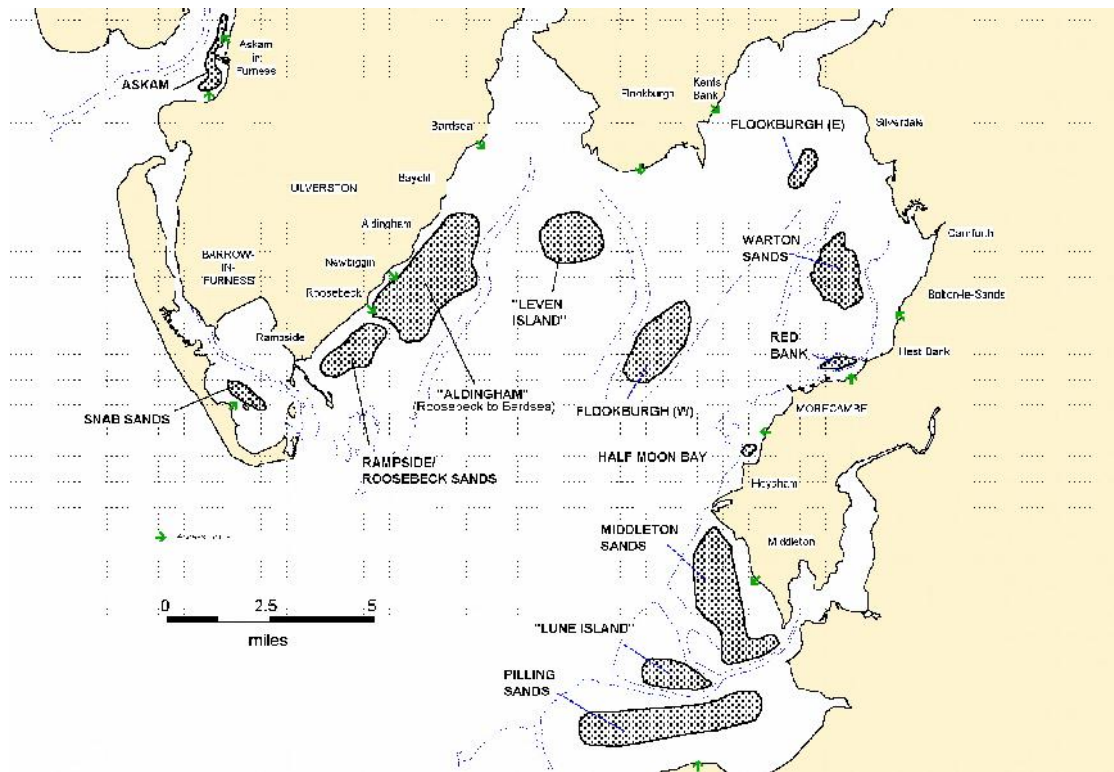


Figure 3. Distribution of cockle beds around Morecambe Bay by name.

Fishing effort for cockles in Morecambe Bay can be extremely high. Reports on hand-gathering from officers give peak counts of 650 (2003/4) and 450 (2004/5), with hundreds of gatherers daily on single beds, resulting in a 'boom and bust' effect. Numbers tend to drop as stocks thin out.

Since the end of April 2008 the cockle fishery has been closed under Byelaws 13a (management of fishery) and 14 (seasonal closure) as data from scientific surveys indicate that stocks have remained depleted and below biologically safe levels. Cockle beds currently remain closed until the start of the seasonal closure on 1st May 2011.

Aside from some tractor dredging in the early 1990s the cockle fishery has been exclusively hand-gathered for over a century. Byelaw 12 specifies only the use of a craam, rake, spade or jumbo (tamp) when fishing for cockles but allows for the use of dredges under written authorisation.

2.1.2 Mussels

The situation with the mussel fishery is quite different with regards to fishing and stock variability. Stocks of size mussels (> 45mm in length) are relatively stable with traditional beds potentially providing a year round resource: there is no seasonal closure for mussels. However, over the last decade hand-gathering for size mussels has declined to very low levels, probably due to a combination of low prices and a diminishing demand

for the wild product as the availability of high quality “clean” cultivated mussels has increased.

Under byelaw 12, size mussels can only be gathered by hand or rake unless a written authorisation is obtained and it is an offence to damage a mussel bed through digging or using unauthorised machinery that might crush, loosen or undermine the mussels.

A feature of Morecambe Bay is the irregular but frequent occurrence of large and extensive mussel spat settlements. These settlements are usually very dense with little or no embysment to the underlying substrate and quickly build up large amounts of sediment and pseudo-faeces (mussel mud). Within a very short space of time these populations become unstable and vulnerable to erosion through weather and/or tide. They are referred to as “ephemeral” beds (Dare, 1971 & 1976) and the Authority takes the line that although they are undersized they should be fished as early as possible as they would otherwise be lost to the fishery and a valuable resource wasted.

The expired Morecambe Bay Mussel Fishery Order 1978 (Appendix 3) was introduced specifically with regard to allowing managed exploitation of this type of mussel settlement on and around an area known as South America and Falklands skears (Figure 4). Recently, the demand for seed mussel (mussels that can be lifted and re-deposited in another area to grow on until of a commercially viable size) has increased as the number of mussel cultivation sites has grown in areas such as the Wash and the Menai Straits. This is reflected in the returns from the 1978 Order (Table 1). The NWSFC regularly issued authorisations under the old Order, and the Authority continues to do so under Byelaw 15 to take undersize mussels by hand or, more usually, by dredge from boats so that a sustainable resource is utilised and available to the industry. Consultation is carried out with the industry and conservation interests. Five authorisations were issued in 2010 for dredging for seed mussel on South America skear.

Year	Tonnes of mussel
2009/10 (to 07.09.10)	3440
2008/9	0
2007/8	3365
2006/7	7000
2004/5	4050
2003/4	2820
2002/3	3600
2001/2	4975
1999/00	950
1996/7	2700
1993/4	2220
1992/3	520
1979/80	400

Table 1. Catch returns from dredging of seed mussel under the Morecambe Bay Mussel Fishery Order 1978 (1979 – 2009) and byelaw 15 (2009 – 10). Omitted years were not fished.

NB. There is no strict technical or scientific definition of **seed mussel**. In theory, mussels of any size can be used as seed for bottom culture (the re-laying, growing on and eventual re-harvest of shellfish) but the significantly lower returns from using larger mussels (the best returns are obtained from mussels as small as 10mm in length) has

led to the industry seeking undersize mussels i.e. less than 45mm shell length. Consequently, the term “seed mussel” usually refers to recently settled mussel below 25mm in length in their first year of growth, that are intended to be re-laid for growing on by an operator in an area set aside for bottom culture. For the purposes of this plan, “seed mussel” shall mean any mussel intended to be harvested for subsequent use within the bottom culture industry and “undersize” shall mean any mussel less than 45mm in length.

Further ephemeral seed mussel beds occur around the Bay that are accessible for hand-gathering, and the Authority endorses hand-gathering permits for the harvest of these mussels under Byelaw 15. Details of fishing effort on these beds for 2005 – 09 is given in Table 2.

Year	Months	Bed	No. permits issued	Total Hrs	Total kgs	CPUE (kg/hr)
2005	Oct/Nov/Dec	Heysham	101	330.5	73968	223.81
2006	Aug/Sep	Heysham	165	255.25	101783	398.76
2006	Nov/Dec	Fleetwood	149	223	73465	329.44
2008	Apr/May	Foulney	52	665	161504	242.86
2008	Sep/Oct	Heysham	146	1239	546426.50	441.02
2008	Oct/Nov	Fleetwood	149	429.5	317845.00	740.03
2008	Dec	Foulney	94	127.5	47841.00	375.22
2009	Sep/Oct/Nov	Heysham	63	107	36207.00	338.38

Table 2. Number of permits issued by the NWSFC/NWIFCA for hand-gathering of seed mussel on inter-tidal ephemeral mussel beds within Morecambe Bay (2005 – 2009).

It is important to note that mussel beds in Morecambe Bay are almost exclusively found on hard substrate – the post glacial moraine skears – and consequently respond quite differently to fishing pressures than in other fisheries such as the Wash in the UK and the Waddensee in the Netherlands where mussel beds are underlain by soft substrates. A map showing the distribution of these skears around the bay is shown in Figure 4.

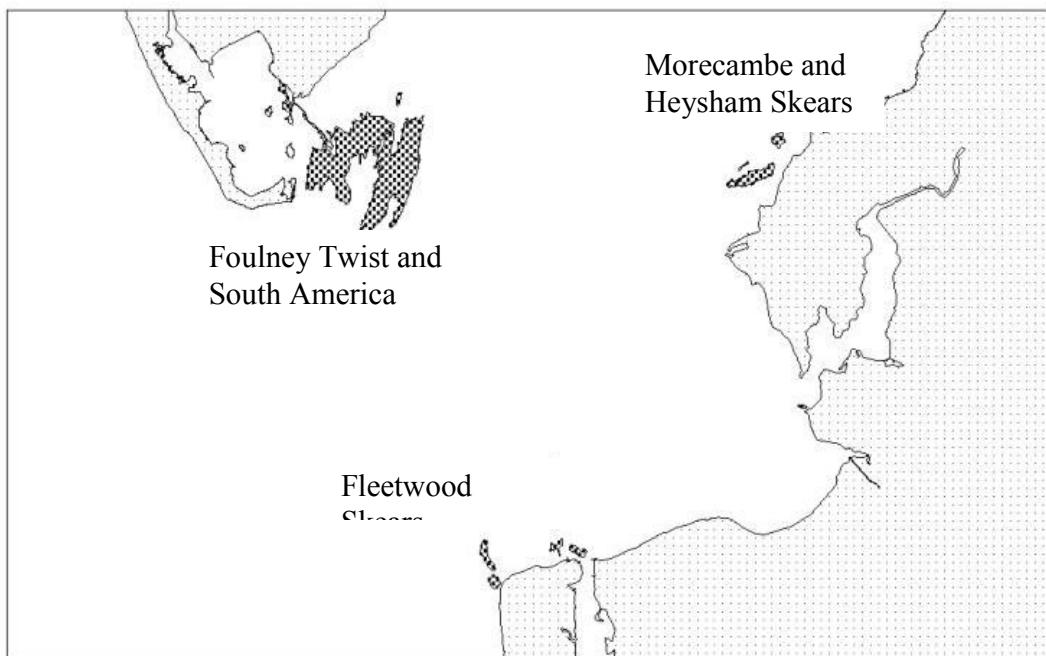


Figure 4. . Distribution of mussel beds around Morecambe Bay by name.

2.1.3 Oysters

To the south of Roosebeck, north Morecambe Bay, Seasalter (Walney) Ltd undertake the cultivation of oysters (*Crassostrea gigas*) on trestle arrays through a private arrangement with the landowner, Boughton Estates. The oysters are kept in bags off the seabed and consequently this operation does not fall directly within the Authority's management remit. However, some management is required with respect to the removal of fouling mussels from the trestles and the location of any trestles in relation to any existing public fishery.

2.1.4 Aquaculture and Several Areas

In the past, there have been attempts by different operators to test the viability of the relaying and growing-on of mussels in Morecambe Bay, mostly around Foulney and the Walney Channel, Barrow in Furness. Figure 5 shows the positioning of previous mussel relaying Several Areas. Some years ago, Bouchot poles were trialled off Heysham and while the initial results were encouraging, a lack of husbandry expertise resulted in them becoming derelict. However, interest amongst operators to run larger trials using Bouchot poles in other parts of the Bay is still high.



Figure 5. Several Areas where previous mussel relaying has taken place.

Many proposals stem from a desire amongst operators to establish new or expand existing operations along the lines of those run under Fishery Orders in the Wash and the Menai Strait. In early winter 2006/7 authorisation was granted for the relaying of up to 1,800 tonnes of undersize mussels on the east side of the Walney Channel, south of Barrow-in-Furness. Some 600 tonnes of mussels were actually laid and when recovered by dredge in summer 2007, it was found that survival had been good. Similar over-wintering of mussels in this area has yielded mixed results in the past, but clearly the area does have potential for mussel cultivation.

Two separate applications for mussel cultivation trials by operators with proven track records within the Bay were approved subject to conditions by the Authority in September 2010. One lies along the west side of Foulney Twist adjacent to the Walney Channel, and the second is on the Walney Meetings area in the Walney Channel to the north of the Jubilee Bridge at Barrow-in-Furness (Fig. 6).

NWIFCA officers currently assess any proposal with regard to their commercial viability, impact on the fishery and possible impact on the nature conservation interest features. A recommendation is then made to the Authority to authorise the activity under the relevant byelaws or reject it. Thus for example, an experimental mussel relay using seed taken within the Bay, if agreed, requires authorisations under byelaws 12 (to use a dredge) and 15 (take undersize).

Whilst the Authority welcomes and will consider any approach to develop the district's fisheries, it retains a general management line that proposals for experimental plots should not be authorised where they seek, or might possibly lead to, the "privatisation" of a public resource. Therefore no application is granted in areas where an existing fishery might be adversely affected.

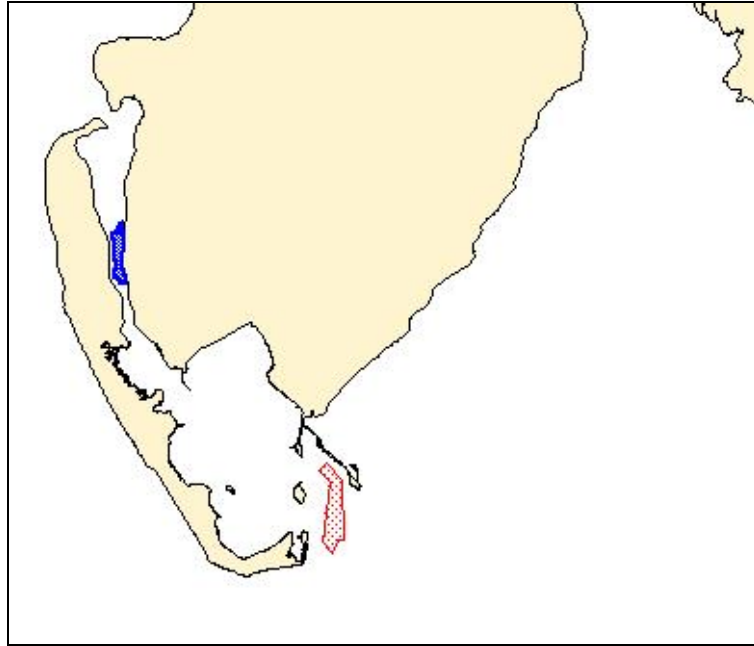


Figure 6. Map showing the areas approved for mussel cultivation trials in Morecambe Bay in September 2010. The blue area depicts the Walney meetings mussel bed (32ha) where three trial areas consisting of 8.38ha lie. The red area depicts the Foulney Twist trial area.

2.2 Timings

The Authority maintains a policy that the district's public fisheries should remain open to harvest if there is no biological or conservation reason to close them. This is an important difference of emphasis to the policy adopted in many other areas whereby fisheries are maintained in a closed status and opened for short periods. The resulting approaches to management are fundamentally different and so result in widely differing suites of management controls.

Consequently the regime of timings for the cockle and mussel fisheries within the NWIFCA district is relatively straightforward with just a seasonal closure for cockles to protect newly settled spat under Byelaw 14 running from 1st May until 31st August inclusive. As stated earlier, there is no seasonal closure for mussels.

In certain circumstances, the Authority has imposed additional restrictions, such as no night fishing, but only as a condition to a particular authorisation for operating outside the normal hand gathering regime. For instance in 2006, 2008 and 2010, in consideration of heightened leisure usage at the weekends and to give local residents a respite from disturbance from the fishing activities, the seed mussel fishery authorised on Heysham Flat skear was only open during weekdays.

2.3 Current Management

2.3.1 Byelaws

The Morecambe Bay fisheries are currently managed under byelaws that apply across

the NWIFCA district. Due to the diversity of the Authority's remit, not all of these relate to shell-fishing and fewer still are solely concerned with the cockle and mussel fisheries. The byelaws that affect cockle and mussel fishing throughout the district are:

- Byelaw 5: Permit to fish for Cockles and Mussels.
Requires persons fishing for cockles and mussels to hold a permit. Issued conditionally upon having held a permit during the previous year and on having previously obtained a Foreshore Gatherers Safety Training Certificate. The scheme allows for 40 new entrants per year. Byelaw 5 was initially introduced in February 2007 and expired in September 2009. This was remade in 2009 to expire in September 2011.
- Byelaw 12: Restriction on fishing for bivalve molluscan shellfish.
Sets out restrictions on fishing methods to be used.
- Byelaw 13: Cockles minimum size.
Details the minimum landing size (MLS) for cockles and the method of measurement.
- Byelaw 13a: Cockles and Mussels – Management of the Fishery.
Allows the Authority, after consultation with fishing groups, to close the fishery for scientific or management reasons.
- Byelaw 14: Cockle fishery seasonal closure.
Details the seasonal closure for the cockle fishery.
- Byelaw 15: Mussels minimum size.
Details the MLS for mussels.
- Byelaw 16: Shell fishery temporary closure.
Provides a mechanism for the temporary closure of beds when stocks are below safe biological thresholds.
- Byelaw 17: Re-deposit of shellfish.
Details how and where shellfish should be returned to the fishery if directed to do so by a Fishery Officer.

2.3.2 Permit Scheme for Hand-gathering of Shellfish

Since December 2003 a permit scheme has operated for shellfishing. Originally constructed under byelaw 13a as a condition of re-opening the fishery following stock management closures, the scheme now operates under byelaw 5. Initially just for cockles in Morecambe Bay, and little more than a registration scheme, it was extended district-wide for both cockles and mussels from 2004/5. During that time it was not possible to set a limit on the number of permits issued, and numbers peaked at over 1000.

The regime under byelaw 5 differs significantly to earlier permitting schemes in that it actively seeks to control effort. At the time of writing (March 2011) the number of permits issued for 2010/11 was 410, indicating that for the first time, a significant reduction in effort within the legal fishery is apparent as a result of management methods rather than market forces.

2.3.3 Joint Liaison Group and Morecambe Bay Action Group

With limited staff resources available to NWIFCA, effective control of fishing effort at its current level and enforcement of regulations is extremely difficult without the assistance of other organisations. Consequently, in administering the fishery, the Authority works closely with other organisations such as the police, local councils, the Maritime and Coastguard Agency (MCA), the Health & Safety Executive (HSE), the Department for Work and Pensions (DWP), Natural England (NE), the Gangmasters Licensing Authority (GLA) and the Environment Agency (EA). This joint working is facilitated at a strategic level through a Joint Liaison Group (JLG) and delivered by the Morecambe Bay Action Group (MBAG). This approach has worked well and has been of undoubted benefit to the management of the fishery. It is therefore intended that it will be continued and developed under the proposed Fishery Order, with clear contingency plans in place for the increased management and enforcement measures necessary when shellfish stocks are exceptionally high.

2.3.4 The Previous Order

The Morecambe Bay Mussel Fishery Order 1978 applied to part of the Bay in respect to seed mussel harvesting. It came into force on 18th January 1979 and covered approximately 4,000 hectares around the area known as South America in the north west of Morecambe Bay (Fig. 4) allowing the Authority to control mussel fishing in that area and levy a toll on dredge operators.

The Order expired on 17th January 2009 since when the fishery has reverted to management by byelaws, which does not allow for the levying of any charge. The Authority has adopted the principles of the 1978 Order in its management of the dredge fishery for seed mussels until a new Fishery Order covering the whole of Morecambe Bay can be implemented.

2.4 Hygiene

Under the European Community (EC) Shellfish Hygiene Directive (91/492/EEC) all shellfish harvesting areas are monitored to ensure shellfish are fit for human consumption. Samples are taken monthly by local authorities and tested against standards set in terms of concentrations of Coliform bacteria and Salmonella.

Shellfish production areas are then classified from A to C according to the level of treatment they require prior to their sale to the general public. The latest classifications for the beds in Morecambe Bay can be found on the Food Standards Agency website (www.food.gov.uk).

As an example the regime used by Lancaster City Council for areas in Morecambe Bay is detailed in **Appendix 4** along with maps showing the positions and classifications of the beds for the relevant species.

Since 2007, a new directive, 854/2004, requires CEFAS to undertake a Sanitary Survey prior to hygiene sampling commencing in new areas or re-commencing where classification has lapsed.

2.5 Conservation

2.5.1 Responsibilities

Under the 'Habitats Regulations' the NWIFCA is a competent and relevant authority for the Morecambe Bay European Marine Site (those parts of the Natura 2000 or European Site which lie below Highest Astronomical Tide) and has a duty to have regard to the conservation needs of this site in carrying out its activities. As a public authority, the NWIFCA also has a duty under the NERC Act 2006 to conserve and where possible enhance biodiversity.

2.5.2 Designations

The area covered by the proposed Fishery Order is designated a RAMSAR wetland, a Special Area of Conservation (SAC) and a Special Area of Protection (SPA). In addition, five Sites of Special Scientific Interest (SSSI) fall within the area; Morecambe Bay, Duddon Estuary, South Walney and Piel Channel Flats, Wyre Estuary and Lune. Part of the eastern end of the area around Arnside is classified as an Area of Outstanding Natural Beauty (AONB). These are shown below in Figure 6.

The Order area will also overlap part of the SPA for Liverpool Bay and the Lune Deep possible SAC, and is contiguous with the Roudsea Wood and Mosses SAC, and the Shell Flat candidate SAC - all of which are accounted for in the consultation and planning process (Fig. 7).

2.5.3 Consultation

The Environmental Steering Group (ESG) made up of officers from the Authority, Natural England and the RSPB was convened in January 2007. The role of the ESG to date has been to assist the Authority in developing the Fishery Order proposals and Management Plan, providing information and expert advice on the conservation interests and needs of the designated sites.

The outputs from the ESG have been discussed with a wider Environmental Forum (EF) that includes Cumbria and Lancashire Wildlife Trusts, the Arnside & Silverdale AONB committee, the Morecambe Bay Partnership and local Councils. The Environmental Forum will continue to meet to consider conservation concerns during the life of the Order.

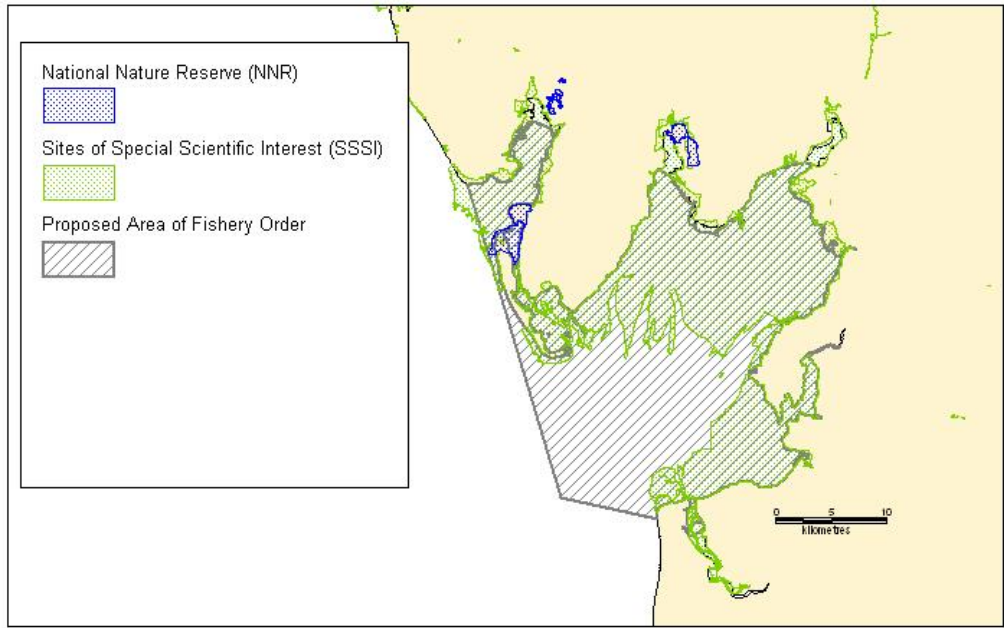


Figure 6. National Nature Reserves and SSSI sites within Morecambe Bay and bordering on the proposed Fishery Order area.

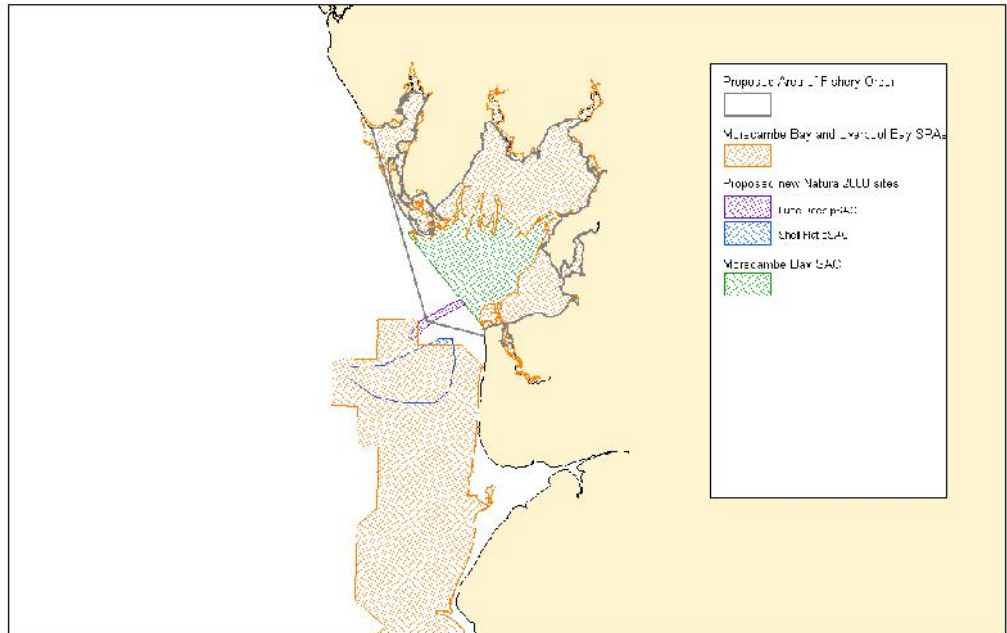


Figure 7. European marine site designations within Morecambe Bay and bordering on the proposed Fishery Order area.

3. The Proposed Fishery

3.1 Background

Until the late 1980s the cockle and mussel fisheries demanded little management attention in terms of effort limitation. Relatively low prices and limited markets meant the fishery was only operated by local fishermen as a supplement to other fishing either when stocks were particularly dense or of a high quality (larger). Over-exploitation was not an issue as fishing became uneconomical at relatively high stock densities and consequently, enforcement focused around the minimum size.

However, this all changed in 1987 with the collapse of the Dutch cockle fishery and subsequent increases in demand and price from markets starved of supply. The ensuing rush towards using gang labour and mechanical methods resulted in the economic threshold for cockle fishing often dropping below the biological threshold and thus threatening stock / population viability.

It has proven very difficult for the Authority to manage such patterns of fishing using byelaws alone. The measures to be incorporated under the Order and set out in this section provide a framework for more effective and flexible management of the fishery, particularly in terms of controlling effort and achieving sustainable exploitation in economic and environmental terms.

For the Order to make a difference in fishery management terms it must allow the Authority to limit effort in terms of the number of fishermen, method of fishing and time spent fishing. Under the proposed Order, a licence will be required to fish for any bivalve shellfish within the Fishery. It will be an offence to fish for bivalve shellfish without a licence.

A licence levy will be payable annually to the Authority. The monies raised will be administered by the Authority for the enforcement of the Order and the direct improvement, development and benefit of the fishery. Separate accounting procedures have been put into place by the Authority to allow for transparency in dealing with the monies.

3.2 Outline of the Fishery Order

3.2.1 Area

The Fishery Order covers an area of 64750 ha, which is to include Morecambe Bay, the Walney Channel (excepting the land owned by Roa Island Boat Club) and the Duddon Estuary enclosed seaward from MHWS by lines taken to and from the following points:

54° 11.327'N 003° 18.987'W
53° 55.803'N 003° 11.070'W
53° 54.703'N 003° 03.051'W

Landward limits of the district for rivers and estuaries as defined by the North Western & North Wales Sea Fisheries District (Consequential and Transitional Provisions) Order 2010 will form the inland boundary with the exception of the Wyre Estuary where the inland boundary is defined by a line taken between:

53° 54.055' N 002° 59.420'W
53° 53.857' N 003° 00.452'W

An approximate representation of the Order area is shown in Figure 1. The precise boundaries are recorded on the appropriate mapping lodged as part of the application for a draft Order. A copy is available for inspection at the NWIFCA's offices in Carnforth. All positions are referred to the WGS (84) datum.

3.2.2 Species

All molluscan bivalves including cockles, mussels, oysters, clams, scallops, queens and razor shells. Currently only cockles and mussels are commercially fished within the area of the Order. In the event of a potential commercial fishery arising for species other than cockles and mussels, the Authority will consider its inclusion under the Order and, following consultation with licence holders, Fishing Associations and the Environmental Forum, include rules and regulations for that fishery through revision of the Management Plan, and issue licences for that fishery.

3.2.3 Duration

30 years from the date of it coming into operation. This length of time is considered by the Authority to be the minimum useful time to allow for proper development and stable management of the fishery in line with this Plan. The length of period also takes into account stakeholders' requirements for stability, giving due incentive to invest with confidence and plan operations in the mid to long term.

4. Hand-gathering

4.1 Methods

4.1.1 Cockles

Fishing for cockles will normally be by hand. The use of crams, rakes, spades and jumbos (tamps) is allowed. All cockles gathered under a Morecambe Bay Fishery Order licence must be landed in NWIFCA issue cockle bags. Cockles may be transported from the beds by tractor, ATV or boat.

4.1.2 Mussels

Fishing for mussels will normally be by hand. The use of a rake is permitted. Mussels may be transported from the beds by tractor, ATV or boat.

4.2 Licensing

Licenses will be available annually for hand gathering size mussels and cockles. From time to time authorisation may be granted for the taking of undersize mussels from intertidal beds through endorsement of the hand-gathering licence.

4.2.1 Allocation

A number of different allocation methods have been assessed with advice from other Regulated Fishery Order grantees. Experience has demonstrated that some methods

have proved to be very bureaucratic and labour-intensive, and have resulted in allocation systems generally considered to be unfair. The scheme proposed here is understandable, verifiable, cost-effective and transparent. Clearly auditable records exist for the Authority to verify applicants' history of holding the Authority's shellfish permits, the initial tier of eligibility.

Fishermen will be invited to apply for a licence to hand-gather cockles and mussels each year. Licences will be allocated on a points system based on proven active and material participation in the commercial fisheries of Morecambe Bay. Tier 1 of eligibility will be length of history of shellfish permit holding since the permit scheme began in 2003. Tier 2 will be proof of occupation as a commercial fisher within Morecambe Bay, with written evidence to be provided according to the set criteria in Appendix ??

After the first year, licence holders from the previous year who wish to continue fishing will be invited to renew. Failure to renew a licence in any year when licences are available will result in the fisherman losing his/her entitlement to a licence. Should they subsequently wish to re-apply they will be subject to the normal waiting list procedures (4.2.6). Exceptions will only be made for long term illness on receipt of medical evidence. Any shortfall between the number of licence renewals and the total licence allocation for that year will be made up from the waiting list (see 4.2.6), with licences being offered to those people at the top of the list, and descending down the list until all licences have been allocated.

4.2.2 Number

Licences for the hand-gathering of cockles and mussels will be limited to a maximum of 50. Extensive consultation provided evidence that stakeholders were in support of this number of licences: 55% of respondents to the fishermen's questionnaire (n = 76) selected the 50 – 150 range (detailed in Appendix 2 and Annex A). It will provide economically viable and sustainable returns for licence holders. It is also of a scale to enable effective implementation and enforcement of measures aimed at managing the fishery sustainably, based on the principles of good stewardship and sustainability including safeguarding the conservation interests of Morecambe Bay.

4.2.3 Levy

It is recognised that in years when substantial cockle stocks exist in the Bay the likelihood of illegal fishing by non-licence holders and the associated problems relating to unsocial behaviour and damage to conservation interests is amplified. In order to alleviate the additional burden of the costs of enforcement and administration on the NWIFCA (see 10 – Resourcing) a flexible charging system will be implemented.

The levy for hand-gathering licences will be based on a dual fee system:

1. A set annual fee of £300 will be payable at the time of issuing of a licence. The Authority reserves the right to increase the annual fee in consultation with licence holders if cockle stocks are exceptional, to offset the additional cost of enforcement and management.
2. Cockles must be landed in NWIFCA issue cockle bags which may be purchased at a charge of £1.25 per bag.

4.2.4 Transfer

Licences will be issued to individuals and will not be saleable or transferable between fishers. The licence holder's death or retirement will result in the licence being offered to the waiting list.

4.2.5 Non-use of Licence

Licences will only be renewed on condition that applicants provide satisfactory evidence of use of the licence during the previous year, subject to the shellfish beds within the Bay having been open to the fishery. Exceptions will only be made for long term illness on receipt of medical evidence. Any licences not renewed due to lack of use will be offered to the waiting list in ranking order (see 4.2.6).

4.2.6 Waiting List

It is anticipated that there will be an over-subscription for hand-gathering licences at the time of the initial allocation and therefore a waiting list will be established for people (over the age of 16 years) wishing to participate in the fishery as licences subsequently become available i.e. when licence holders retire from the fishery.

The waiting list will be ranked depending on the score given based on the evidence supplied by applicants of their proven active and material participation in the commercial fisheries of Morecambe Bay according to the set criteria in Appendix ?? When a licence becomes available it will be allocated to the applicant at the top of the waiting list. In the event of a tied score, a random draw of tying applicants will be used to break the tie and determine the licence allocation. People will have to "self renew" their waiting list application each year.

After the establishment of the initial list, additional names will be added strictly in the date order of the application.

4.2.7 Temporary Licences

The Authority reserves the right to issue temporary hand-gathering licences, up to a maximum of 150, as and when stock levels within the fishery allow. It is not anticipated that this would be a regular occurrence but more as a measure to be used when stock levels are exceptionally high. Temporary licences would be additional to the annual allocation of 50 hand-gathering licences, and applicants will be invited from the waiting list in ranking order. Temporary licences will be non-renewable and will expire at the end of the stipulated temporary period. Granting of a temporary licence does not confer any rights to a full licence.

4.2.8 Young Persons Apprenticeship Scheme

It is recognised that a system of licence allocation solely devised on length of experience and material participation runs the risk of stagnating the industry, as older fishermen retire without any experienced younger fishermen to succeed them. An analysis of age demographic of potential licence holders (ie. those having held a permit for the full 6 years of its operation) showed that 63% were in the 40+ age range.

The Authority will closely monitor the age demographic of hand-gathering licence holders and reserves the right to introduce a Young Persons Apprenticeship Scheme if evidence

suggests that young people are being prohibited from entering the fishery. In such circumstances, current licence holders and those on the waiting list will be consulted and full details of how the Scheme would operate will be published in a separate document.

4.2.9 Unlicensed Gathering

Notwithstanding all other regulations including those relating to bed closures, minimum landing sizes and fishing hours, a per person daily allowance of up to 5kg of cockles and up to 5kg of mussels will be allowed for personal consumption.

Where appropriate, the Authority may approve the removal of shellfish by unlicensed persons for the purposes of hygiene monitoring, stock management and other scientific purposes.

An exception is to be made for the area known as Snab Sands, Walney, where hand-gathering of cockles for personal consumption has historically been carried out. Unlicensed hand-gathering will continue to be permitted here within the area defined¹ No commercial gathering will be permitted.

4.2.10 Review

The licence levy, method of allocation and number of licences will be reviewed annually with the NWIFCA reserving the right to do so more frequently if necessary.

5. Fishing by Dredge

5.1 Methods

5.1.1 Cockles

The Authority reserves the right to authorise the use of mechanical methods for experimental, scientific or development purposes as it sees fit, subject to proper consultation and agreement with the licensees and the Environmental Forum, and if necessary subject to Appropriate Assessment. Any dredge, appliance or other end gear shall be of a pattern approved by the Authority in writing.

5.1.2 Mussels

Subject to conservation considerations, dredging from boats will continue to be authorised for the taking of seed mussel from ephemeral beds and the lifting of any relaid mussels within the Order area. The size, number and pattern of dredges shall be required to be approved by the Authority as part of the authorisation process.

The Authority reserves the right to authorise the dredging for size mussel as it sees fit, subject to proper consultation and agreement with the licensees and the Environmental Forum, and if necessary subject to Appropriate Assessment. Any dredge, appliance or other end gear shall be of a pattern approved by the Authority in writing.

¹ This area will be defined by map and co-ordinates.

5.2 Licensing

Licences will be issued to accommodate the exploitation of seed mussels on ephemeral beds by boats. Should boat dredging for size mussels be authorised separate licences for size mussel will be issued. Should mechanical dredging for cockles be authorised separate licences will be issued.

5.2.1 Allocation

Under certain circumstances applications will be invited to be made to the NWIFCA for licences to dredge undersize (seed) mussels from “ephemeral” beds. These will be allocated on a first come, first served basis providing applicants fit the suitability criteria, by having a proven track record of shellfish dredging and by providing proof of possession of an appropriate fishing licence.

Subject to proper consultation and agreement with the licensees and the Environmental Forum under certain circumstances applications will be invited to be made to the NWIFCA for licences to dredge for size cockles or mussels. These will again be allocated on a first come, first served basis providing applicants fit the suitability criteria as above.

5.2.2 Managing Effort

The reason for authorising dredging of seed mussel by boat is to allow exploitation of a resource that would otherwise be lost through natural processes. The Authority considers that the faster it is carried out, the more effective and successful it is likely to be. That being the case coupled with the fact that the Authority has not had the means to restrict numbers previously, no limit has to date been imposed on the number of authorisations for dredging issued.

However, given the growing demand for seed mussel, and potentially for size mussel and cockle at some point during the life of the Order, there are concerns at the possible effects of unlimited effort on the European Marine Site interest features. The Authority therefore considers that there should be a mechanism to provide for limiting effort. Reproduction and recruitment success rates are known to be difficult to predict. Consequently the Authority will annually determine licence numbers, geographic area of the fishery and time period dependent on scientific survey of recruitment and stock availability.

5.2.3 Levy

The charging structure for the dredging of seed and/or size mussels by boat or mechanical harvesting of cockles will be decided annually based on the cost of managing the fishery to the Authority in relation to the number of licences issued and vessel length, with an additional tonnage levy decided by the Authority. An indication of proposed licence levy based on 5 licences is shown below:

All levies will be reviewed annually and changes notified to relevant parties 30 days before the end of the seasonal closure. Payment of a levy will not confer a right to any quota within the fishery.

Vessel Length (m)	Levy (£)
up to 17m	600
17 - 20	1200
20 - 23	1800
23 - 26	2400
26 - 29	3000
over 29	3600

5.2.4 Transfer

Licences for boat dredging will be issued to an individual licensee for a specified vessel and will not be saleable or transferable between operators except under the conditions listed below. If the vessel is sold the licence may not be transferred with it to the new owner. Should the licensee acquire a new vessel as a replacement for the original, the licence may be transferred to the replacement vessel. The licence holder's death or retirement will result in the lapsing of the licence.

5.2.5 Review

The licence levy, method of allocation and number of licences will be reviewed annually with the NWIFCA reserving the right to do so more frequently if necessary.

6 Management

This section of the Management Plan deals with the regulations and restrictions that will apply to a licence.

6.1 Minimum Landing Size (MLS)

6.1.1 Cockles and Mussels

Within the area covered by the Order, no mussel less than 45 millimetres in length nor any cockle that will pass through a gauge having a square opening of 20 millimetres measured across each side of the square shall be removed.

Where appropriate, the Authority may approve the removal of undersize shellfish for the purposes of hygiene monitoring, stock management and other scientific purposes by unlicensed persons.

From time to time, the Authority may approve derogation from the MLS for mussels to allow for the hand gathering of undersized mussels by licence holders in specified areas. Such areas will be determined by the Authority's Officers after appropriate consultation with interested parties and with due regard to environmental, social and practical matters. Once agreed, the Authority will authorise removal of a specified tonnage. Prior to fishing, licence holders must obtain an endorsement to collect seed from such areas which will be issued upon written request to the Authority.

The dredging of undersized mussels from ephemeral mussel beds will continue to be authorised in line with the Authority's current policy. As mussel settlement is known to be highly variable and unpredictable, there is a possibility that, within the life of the Order, ephemeral beds may occur in areas not previously fished which the industry may wish to exploit. Any application will be considered in full consultation with the Environmental Forum and other appropriate bodies, and the Order will grant the Authority powers to regulate fishing by specifying size of dredge, spatial and temporal restrictions, and any other control deemed necessary.

6.1.2 Other species

The MLS for other species covered by the Order shall be determined by the Authority as and when necessary and the Authority reserves the right to change the MLS for any species for the benefit of the fishery or environment as it deems appropriate. Where no limit is set under the Order, national or EU limits will apply.

6.2 Closures

Subject to consultation with licence holders' representatives, the Authority may close any cockle or mussel bed or part thereof within the Order for the purposes of fishery management.

The Authority may also close any area within the Order permanently or temporarily for the purposes of environmental safeguard and enhancement, following advice from the Environmental Forum.

Due to the dynamic nature of Morecambe Bay the geographic position of these areas may alter each year. Consequently, maps and descriptions of closed areas, including changes in their details, will be issued to fishermen and other stakeholders as appropriate.

6.2.1 Permanently Closed Areas

Areas where the conservation interests are particularly vulnerable to damage or disturbance from fisheries or access to fisheries will be subject to permanent closure. These will include sea grass *Zostera* beds, *Sabellaria* reefs and vegetated shingle interest features and associated breeding bird interests.

6.2.2 Temporary Closed Areas

Areas where the conservation interests are particularly vulnerable to damage or disturbance from fisheries or access to fisheries during a specific time of year, under extreme weather conditions or in respect of specific fisheries operations, may be subject to temporary closure.

6.3 Fishing Hours

Concerns over health and safety (both for fishers and enforcement staff), environmental disturbance and the nuisance to residents have resulted in the Authority considering a limitation of fishing hours around daylight hours. As a result, the Authority reserves the right to stipulate fishing hours within the Order boundaries when circumstances dictate.

Notwithstanding the seasonal closure for cockles and any other temporary or permanent closure within the Order area, there are no restrictions on the number of days the fishery can be prosecuted. As circumstances dictate, the Authority reserves the right to introduce weekend closures.

6.4 Stock Thresholds

6.4.1 Cockles

Each year, consideration will be given by the Authority in consultation with the Environmental Forum to setting a minimum density of adult cockles (1yr or older) below which fishing should cease. This figure will take into account age/size structure of the population, commercial value, environmental considerations and responsibilities under the Habitats Regulations, both stand alone and in combination, along with best and latest available scientific knowledge.

This figure currently stands at 20m⁻² and has proved to be an effective and reasonable level in Morecambe Bay, agreed with relevant conservation agencies.

Whilst it is not envisaged that a daily cockle quota be routinely applied, provision for such will nevertheless be made.

The Authority reserves the right to limit the catch for all or part of the open season – ie. to set TACs (Total Allowable Catch) or bag limits per day, week, month or year. TACs or bag limits will be set based on the best available scientific data.

6.4.2 Mussels

Historically, mussel beds within Morecambe Bay have never been closed due to low stock levels or densities. Mussel beds are situated on hard substrate 'skears' which provide ideal substrate for recruitment, even when beds have been stripped of existing biomass by natural events, such as storms.

Consequently, stocks are more stable than cockles in terms of recruitment and show good representation of year classes. It is also believed that adult broodstock from outside of the Bay may provide larvae for settlement.

Over recent years there has been little commercial value in size mussel and thus no risk of over-exploitation. This situation will continue to be monitored through analysis of catch returns.

Should circumstances change, the Order provides the powers to close the mussel beds when necessary for stock management, or for conservation reasons such as the feeding requirements of SPA listed birds.

The Authority's current policy on the management of ephemeral mussel beds will continue. It is recognised that in the future the position of these beds may change, and that 'semi-ephemeral' beds may develop in other areas around the Bay. These will be assessed on a case by case basis in consultation with the Environmental Forum and the industry. The Fishery Order will give the Authority powers to manage the exploitation of all seed mussel beds within Morecambe Bay.

6.4.3 Catch Returns

Catch returns are to be submitted monthly within 7 days of the end of the month, including nil returns, when beds are open. Details will include the date on which and the beds from which any shellfish are taken, fishing effort (hours fished) and weight (kg) harvested. Non compliance will result in a penalty endorsement of the licence. Returns can be submitted by post, or electronically through the Authority's website or email address.

6.5 Season

There will be an annual seasonal closure for cockles from 1st May to 31st August inclusive as under byelaw 14. The NWIFCA may allow the removal of cockles during this time for hygiene monitoring, stock management or other scientific purposes.

Currently, there is no seasonal closure of the mussel fishery and none is proposed for the inception of the Order. However, in consultation with relevant stakeholders, the Authority may implement such a closure where and when appropriate for the good management of the fishery, or for sustainability of feeding stock for SPA birds.

6.6 Damage to the fishery

The NWIFCA encourages adoption of the voluntary 'Code of Conduct for Intertidal Shellfisheries' ([Appendix 5](#)) so that actions likely to cause damage through fishery activities can be avoided.

Certain activities, such as digging in mussel beds, can cause lasting and significant damage to shellfish beds. Consequently, any such activity will be prohibited under the Order without the prior written consent of the Authority, for example in the case of the laying of energy cables and pipelines.

Any other activity which substantially changes the character of the cockle or mussel beds, or denies access to traditional beds (such as the stationing of bouchot poles or the relaying of mussels) will be prohibited.

6.7 Access – for Hand-gathering

Access to and from the hand-gathering fishery should be via designated access and landing points, as specified [in Appendix 6](#). The only exception is when the catch is being transported by boat, subject to prior written agreement of the Authority.

In consultation with other relevant bodies and the Environmental Forum, the Authority shall consider the issues and potential problems relating to the use of each access point and agree any specific restrictions. Such restrictions should be observed as part of the conditions of the licence.

The use of two-wheel drive vehicles other than tractors and ATVs to access the shellfish beds shall be prohibited.

In the event of a medical or practical emergency the safest and/or most expeditious point of access or recovery should be used.

Where not already implicit (e.g. a public right of way) landowners' permission must be obtained to use other access points and any conditions attached observed as part of the conditions of the licence.

6.8 Monitoring Effort

The Authority requires regular and reliable catch returns data in order to best assess the effects of fishing on stock densities and thresholds. Results from analysis of the data received, including fishing effort, will be regularly and widely publicised and used to inform future scientific analysis and management decisions. It will also allow for increased understanding of the interaction between environment and exploitation, both factors known to affect variation in shellfish populations.

Fishery Officers will carry out regular inspections to ensure compliance with size limits, licence validity and also gather separate data regarding landings.

7 Several Areas

As grantee of the Hybrid Fishery Order, the NWIFCA will have powers to grant an individual Several Fishery Order rights, within a defined area (Several Area) of the larger regulated fishery². Applications for Several Areas should be made to the Authority in the same manner as though applying directly to DEFRA. They must be accompanied by a management plan which will be subject to Appropriate Assessment by the Authority. In line with terrestrial planning procedures the onus would be on the applicant to provide the necessary information at their own cost for the Authority to undertake an Appropriate Assessment and make a decision as to its suitability. Any proposal will also be subject to scrutiny by the Environmental Forum, and be subject to consultation with energy and utility companies operating or with future developments in the Bay, before being passed on for Ministerial approval.

Interest among operators in establishing Several Areas in Morecambe Bay is high, and the NWIFCA proposes that an ongoing programme of scientific work is required to identify new areas which will be suitable for mariculture. It should be borne in mind that there is a requirement on the granting of Several Areas that the proposed activity will result in an improvement to the fishery. Several Areas will only be considered if the proposal is deemed to have no impact on existing fisheries and that the lessee is committed to the active improvement of the fishery. It will only grant a lease whereby there is no adverse effect on the public fishery.

Predicted changes to the natural environment brought about by climate change and sea level rise may bring about a more favourable environment for the kind of development in mariculture similar in proportion or scale to that presently practiced in the Wash or the Menai Strait. Although officers do not currently consider the physical and biological make up of the Bay to provide the scope for such developments, changes in the Bay during the lifetime of the Order may provide increased opportunity for shellfish mariculture, and scientific work aims towards predicting the likelihood and possible extent of such changes.

² Include percentage figure of proposed area set over to Several Areas

The policy that the NWIFCA holds with regard to authorising experimental plots (Section 2.1.4, paragraph 4) will be carried over into the management regime for the Fishery Order.

8 Aquaculture

Under certain circumstances, Several Areas are not required for aquaculture. Proposals for new aquaculture ventures or the extension of existing activities within the Order area must be made in writing to the Authority. As with applications for Several Areas, there should be no adverse effect on the public fishery and any research, information or survey work would need to be completed or commissioned by the applicant at their own expense to enable the NWIFCA to produce an Appropriate Assessment. There will also be a requirement to ensure that energy and utility companies operating in the Bay are also consulted.

9 Scientific Work

Scientific work will be designed and directed towards providing the necessary basis for informed and evidence-based decision making in relation to the management of the fisheries (including compliance with the requirements of the Habitats Regulations and Marine and Coastal Access Act 2009) and increasing understanding of the ecology of the fisheries and its effects within the wider ecosystem of the Bay. There will be two main areas of focus.

9.1 Stock Monitoring

The existing practice of using minimum densities as the threshold value for bed closures in relation to cockle stocks will continue initially under the Order. A programme of active research is planned in order to re-assess the minimum stock density threshold. Carefully conducted research will result in a better understanding of the cockle fishery, stock variability and SPA bird feeding requirements to aid management.

In the case of mussels, assessment of the stock tonnage from coverage data will form the basis of monitoring.

To establish the impacts of fishing once the Fishery Order has been implemented, a regime of monitoring will be established by the NWIFCA scientific staff, independent of the catch return system (see Programme of Scientific Work in 3.12.1). This monitoring will provide the necessary data relating to size, age, density, growth rates and distribution of exploited shellfish to allow informed and justified management decisions. Surveys will follow protocols agreed with the Environmental Forum.

Patterns of exploitation will also be monitored and analysed with a view to identifying any localised effects or impacts and adjusting the management plan accordingly.

9.2 Conservation of Natura 2000 interest features and wider biodiversity

The Environmental Forum will work to identify, agree, monitor and review the actions taken or which need to be taken, in respect of activities covered under the Fishery Order, to ensure that the conservation interests within the Bay are maintained in, or recovered to, a favourable condition and enhanced where appropriate.

The process will include:

- Review of the management measures needed to ensure good practice, compliance with the Habitats Regulations and discharge of general biodiversity duties
- Review of closed areas both permanent and temporary
- Identification of work required to improve the quality of Appropriate Assessment
- Monitoring of fisheries and environmental interactions
- Assessing the effectiveness of management actions
- Review of the impacts of shellfishing on the condition of the European Marine Site

10 Resourcing

The costs associated with the specific policing, administration and scientific work attaching to the Fishery Order place a burden on the limited resources of the NWIFCA. Consequently, the licence levy income will be used to offset some of these costs and the Authority will allocate officers and resources to its best ability. Cross-agency working with Natural England, the Joint Liaison Group and Morecambe Bay Action Group will be promoted, and contingency plans drawn up for enforcement management measures in cases of gross infringements of the Regulations within the Order. The powers to increase the licence levy during years of high stock densities will provide some additional resources to assist with increased enforcement requirements.

The Authority reserves the right to raise the fees charged for the licences and cockle bags following the annual review.

11 Sanctions

The Authority's Fishery Officers have powers of policing and enforcement. Any person found in contravention of the Fishery Order will be prosecuted under the Sea Fisheries (Shellfish) Act 1967 (as amended by the Marine and Coastal Access Act 2009). If found guilty of a single offence, in addition to any fine imposed, any licence holder will have that licence immediately cancelled and will not be eligible to apply for any future licence.

Fishery Officers may issue verbal and written warnings for any infringement of the Order or Code of Conduct Guidance that does not warrant prosecution. A record will be kept of any warnings issued. One endorsement point will be attached to a licence following the issue of a written warning. Endorsement points will remain attached to the licence for the duration of the Fishery Order. Should a licensee continue to breach the Order or Code of Conduct and accumulate a total of three endorsement points, that licence will be revoked.

12 Review

The Management Plan should allow for potential changes and developments in the fisheries. This five year Management Plan will be subject to an annual review which will be undertaken by the Authority in consultation with the stakeholders at the end of each fishing season (May).

This Management Plan also identifies a longer term role for the Environmental Forum, supporting the Authority's implementation, monitoring and review of the Fishery Order

and Management Plan by providing conservation information and advice as required at the beginning and end of each fishing season (September to May).

A number of thresholds and events have been identified that would trigger a review of the plan outside the regular annual review process.

12.1 Fisheries

- Substantial illegal fishing (eg large numbers of non-licence holders regularly recorded harvesting shellfish or fishing within closed beds)
- Proposals to introduce new methods or a change in method (eg large scale wet or dry dredging for cockles)
- Stock levels below scientific thresholds
- Unusually high or low stock levels (eg heavy settlement and survival to size in previously unfished areas)

12.2 Environmental

- Unusually high or low stock levels
- Evidence of an adverse effect on Natura 2000 interest features (eg evidence of adverse disturbance effect on SPA listed bird species)
- Identification of a threat to Natura 2000 interest features (eg evidence of change in feeding behaviour of SPA listed bird species due to apparent lack of shellfish)
- Unfavourable condition assessment if linked to fishing activities under the Order
- Regular and/or widespread non-compliance with management measures (eg failure to restrict access to beds via designated points)

12.3 Socio-economic

- Significant change in market price (eg. for wild-caught size mussel resulting in increased fishing effort)
- Significant change in public opinion
- Infrastructure projects and developments (including aquaculture)

13 Management Calendar

Action	Timing
Cockle bed closure under Byelaw 13a	1st September 2010 – 30th April 2011
Byelaw 5 Permit Scheme	1st September 2010 – 31st August 2011
Harvesting Classifications (Hygiene)	1st September 2010 – 31st August 2011
Consultation with Defra, NE and Environmental Forum	Present until granting of Fishery Order
Updating stakeholders: permit-holders and fishing associations, mussel-dredge operators, Shellfish Liaison Group, local authorities and MPs, Morecambe Bay Partnership, land-owners, energy and utility companies	Present until granting of Fishery Order
Hygiene Monitoring of Shellfish Beds (monthly)	10 months per annum
Scientific Monitoring of Shellfish Beds	(ongoing see attached schedule)
Seasonal Cockle Bed Closure under Byelaw 14	1st May – 31st August 2011
Consultation with Environmental Forum for conservation information and advice	Ongoing
Harvesting Classifications (Hygiene)	1st September 2011 – 31st August 2012
Applications Open for Licence to Fish under Fishery Order	1 st October 2011
Hygiene Monitoring of Shellfish Beds (monthly)	10 months per annum
Implementation of Fishery Order	1st January 2012
Fishery Order Licensing Scheme	1st January 2012 – 31st December 2012
Seasonal Cockle Bed Closure under Byelaw 14	1st May – 31st August 2012
Consultation with Environmental Forum for conservation information and advice	September 2012
First Review of Management Plan with consultation with stakeholders	September 2012
Notification of Changes to Levy	1st October 2012
Applications Open for Licence to Fish under Fishery Order	1st October 2012
Harvesting Classifications (Hygiene)	1st September 2012 – 31st August 2013
Hygiene Monitoring of Shellfish Beds (monthly)	10 months per annum
Fishery Order Licensing Scheme	1st January 2013 – 31st December 2013
Seasonal Cockle Bed Closure	1st May – 31st August 2013
Consultation with Environmental Forum for conservation information and advice	June and September 2013
Harvesting Classifications (Hygiene)	1st September 2013 – 31st August 2014
Hygiene Monitoring of Shellfish Beds (monthly)	10 months per annum
Second Review of Management Plan with consultation with stakeholders	September 2013
Notification of Changes to Levy	1st October 2013

Applications Open for Licence to Fish under Fishery Order	1st October 2013
Fishery Order Licensing Scheme	1st January 2014 – 31st December 2014
Seasonal Cockle Bed Closure	1st May – 31st August 2014
Consultation with Environmental Forum for conservation information and advice	June and September 2014
Third Review of Management Plan with consultation with stakeholders	September 2014
Notification of Changes to Levy	1st October 2014

The Environmental Forum will convene as necessary, though not less than annually, to discuss the status of the interest features and possible threats. A review of the Appropriate Assessment should be undertaken at these times.

	Write report									Once			
Heysham Flat Mussels	Monitor growth and extent of seed	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly						
	Map extent of <i>Sabellaria</i> colonies	Annually	Annually	Annually	Annually	Annually	Annually						Annually
Foulney Twist Relay Trials	Consultation and Committee Report	Once	Once										
	Monitoring and Evaluation			Half Yearly	Half Yearly	Half Yearly	Half Yearly	Half Yearly	Half Yearly	Half Yearly			
	Final Report								Once				
North Walney Channel Mussel Relay Trials	Monitoring and Evaluation	Half Yearly	Half Yearly	Half Yearly	Half Yearly	Half Yearly	Half Yearly	Half Yearly	Half Yearly				
	Final Report								Once				
Shellfish Hygiene	Sampling	Bimonthly	Bimonthly	Bimonthly	Bimonthly	Bimonthly	Bimonthly	Bimonthly	Bimonthly	Bimonthly	Bimonthly	Bimonthly	Bimonthly
	Mapping	Annually	Annually	Annually	Annually	Annually	Annually	Annually	Annually	Annually	Annually	Annually	Annually
	Liaison, Strategy and Planning	Half Yearly	Half Yearly	Half Yearly	Half Yearly	Half Yearly	Half Yearly	Half Yearly	Half Yearly	Half Yearly	Half Yearly	Half Yearly	Half Yearly
Size Mussel Dredge Fishery for Small Boats	IFCA Technical Sub Committee Report	Annually	Annually	Annually	Annually	Annually	Annually	Annually	Annually	Annually	Annually	Annually	Annually
Shellfish Discard Mortality Study	Scope Project			Once									
Eider/Mussel Risk Review	Liaise with Natural England	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly
	Represent IFCA at Meetings	Half Yearly	Half Yearly	Half Yearly	Half Yearly	Half Yearly	Half Yearly	Half Yearly	Half Yearly	Half Yearly	Half Yearly	Half Yearly	Half Yearly
Bird/Shellfish Model	Liaise with Natural England	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly
	Adjust Survey Regime to Accommodate Model										Monthly	Monthly	Monthly
	Provide Shellfish data			Once	Once	Once	Once						
	Represent IFCA at Meetings	Annually	Annually	Annually	Annually	Annually	Annually	Annually	Annually	Annually	Annually	Annually	Annually

Once ■ Weekly ■ Monthly ■ Bimonthly ■ Quarterly ■ Half Yearly ■ Annually ■

14 Accounting

Accounting Period: 1st April – 31st March
Responsible Person: The Chief Executive of the NWIFCA.
Financial reports will be made quarterly to the NWIFCA Committee.

Auditors:
Internal: Moore & Smalley. LLP.
Richard House. 9 Winckley Square,
Preston. PR1 3HP

External Appointed by Audit Commission: BDO Stoy Hayward.
Arcadia House. Maritime Walk.
Ocean Village. Southampton. SO14 3TL

15 Draft Annual Budget

INCOME IN YEARS WHEN FISHABLE STOCK EQUALS 1000 TONNES

Source	Number Issued	Cost each (£)	Income Generated (£)
Hand-gathering licence	50	300	15000
Cockle bags	25000	1.25	31250
Boat dredging licence	5	1000	5000
Total			51250

INCOME IN YEARS WHEN FISHABLE STOCK EQUALS 500 TONNES

Source	Number Issued	Cost each (£)	Income Generated (£)
Hand-gathering licence	50	300	15000
Cockle bags	12500	1.25	15625
Boat dredging licence	5	1000	5000
Total			35625

Scenario: with 2 years of 1000 tonnes and 500 tonnes would generate £86875

Cost would be £113,004 (not counting for any inflation) leaving a deficit of £26,129

OVERHEADS PER STAFF MEMBER BASED ON 10 STAFF
Fisheries Enforcement/Scientific Staff including Vehicle

	Include in Staff Overheads Amount per annum per Staff member	
Premises		
Repairs/maintenance	250	
Electricity & Gas	650	
Rents	1500	
Rates	400	
Water	30	
Fixtures and fittings	100	
Cleaner	200	
Cleaning materials	50	
General insurance	700	
Sub-Total	3880	
Supplies/Services		
Printing/copying	500	
Stationery	400	
Postage, carriage inwards	60	
Postage, carriage outwards	450	
Telephone/fax - rentals	217.2	
Telephone/fax - calls	120	
Computers	840	
Subscriptions	300	
Training	1000	
Sub-Total	3887.2	
Total	7767.2	→

Annual Costs for a Fishery Officer	2010/11
SCP (say 27)	22958
Unsocial Hours Allowance	2295.8
Gross salary	25253.8
NI c/o	2298.096
LGPS	5783.12
<u>Salary & related costs</u>	<u>33335.02</u>
<u>Vehicle</u>	<u>7050</u>
Annual hire	3000
Insurance	800
Fuel	2500
Repairs	750
<u>Quadbike</u>	<u>4360</u>
Purchase cost (over 2 yrs)	3000
Insurance	160
Fuel	200
Repairs/maintenance	1000
<u>Zodiac</u>	<u>3490</u>
Purchase cost (over 5 yrs)	2400
Insurance	190
Fuel	400
Repairs/maintenance	500
<u>Uniform</u>	<u>500</u>
<u>Total</u>	<u>48735.02</u>
<u>Grand Total</u>	<u>56502.22</u>