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SEA FISHERIES

SHELLFISH

The Molluscan Shellfish (Control of Deposit) Order 1974

Made 17th September 1974

Coming into Operation 7th October 1974

DEPOSIT OF MOLLUSCAN SHELLFISH

The Minister of Agriculture, Fisheries and Food, in exercise of the powers conferred on him by section 1(2) of the Sea Fisheries (Shellfish) Act 1967 and of all other powers enabling him in that behalf, hereby makes the following order:—

Citation and commencement

1. This order may be cited as the Molluscan Shellfish (Control of Deposit) Order 1974 and shall come into operation on 7th October 1974.

Interpretation

2.—(1) In this order:—

"The Minister" means the Minister of Agriculture, Fisheries and Food;

"molluscan shellfish" means molluscan shellfish of any kind whether alive or dead and includes any part of a molluscan shellfish and any (or any part of any) brood, ware, half-ware or spat of molluscan shellfish, and any spawn of molluscan shellfish, and any shell, or any part of the shell, of a molluscan shellfish;

"shellfish bed" means any bed or ground in which shellfish are usually found or which is used for the propagation or cultivation of shellfish.

(2) The Interpretation Act 1889(b) shall apply for the interpretation of this order as it applies for the interpretation of an Act of Parliament and as if this order and the orders hereby revoked were Acts of Parliament.

D. KEY

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LOWESTOFT

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DEPOSIT OF MOLLUSCAN SHELLFISH: an explanation of the provisions of the Molluscan Shellfish (Control of Deposit) Order 1974 with particular regard to seed molluscs produced from hatcheries

by D. Key

INTRODUCTION

The uncontrolled importation of foreign species of oysters at the end of the last century was the cause of the introduction into parts of England and Wales of two pests of oysters: the American oyster drill (Urosalpinx cinerea) and the American slipper limpet (Crepidula fornicata). The presence of these pests on cultivated oyster grounds has generally resulted in decreased production and higher working costs and it was early realized by Ministry scientists that if the long-term interests of the industry were to be protected, further spread of these pests should be prevented. Also, measures to control the relaying of shellfish containing the gut parasite of mussels (Mytilicola intestinalis) in areas where it did not already occur were needed to protect valuable mussel fisheries.

More recently the problem of pests and diseases in the shellfish industry has been made more acute by the spread of 'Aber disease' in France during the past five years. This has had a disastrous effect on the native oyster fisheries there and it is now also present in Holland and Spain. It is thought to have been introduced into France with stock from Canada or Japan and it has spread rapidly by being carried from one part of the coast to another in consignments of oysters. Due to effective restrictions over importations of molluscan shellfish for relaying, this disease has not yet been found in UK waters. A similar disease affected oyster-growing regions throughout Europe in the 1920s: at that time large quantities of oysters were being freely moved from one region to another. Transplanting oysters from one area to another is a common feature of the oyster industry and stocks carrying disease can quickly infect widespread areas. In the course of a few years in the 1920s all growing regions in Europe were affected by severe mortalities and it took many years for the industry to recover from the effects of this disaster.

It is therefore evident that controls over the deposit of live oysters and mussels (the two species which are commonly moved from one growing area to another) and in some instances the deposit or disposal of the shell of any type of molluscan shellfish, e.g. scallop and queen shell, are essential to restrict the distribution of the known pests.

Ideally hatcheries should be sited where no pests or diseases occur, so that any controls will not affect the relaying of hatchery stocks (either from the grounds or from any other structure). However, several hatcheries do not have this advantage and it is hoped that by setting out in this Laboratory Leaflet, in a

simplified form, the controls which now exist and the reasons for them, a reasonable working arrangement can be developed which will enable them to operate with minimal restriction.

THE MOLLUSCAN SHELLFISH (CONTROL OF DEPOSIT) ORDER 1965

This Order had two main functions:

(a) to prevent the introduction of known pests into England and Wales by controlling deposits, i.e. the laying of molluscan shellfish, from certain overseas countries;

(b) to prevent pests spreading within England and Wales by controlling the deposit from possibly infested coastal areas in areas where pests of molluscan shellfish were not evident.

These restrictions were relaxed under some circumstances and specific movements were allowed under the authority of a licence issued by the Ministry.

Despite amendment in 1966 and 1968, this Order had shortcomings, and in particular was not effective against the serious problems which the introduction of new pests could create. It was therefore revoked and replaced by the Molluscan Shellfish (Control of Deposit) Order 1974 which came into operation on 7 October 1974.

THE MOLLUSCAN SHELLFISH (CONTROL OF DEPOSIT) ORDER 1974

The Ministry of Agriculture, Fisheries and Food has powers under the Sea Fisheries (Shellfish) Act of 1967 to make Orders to control the deposit, i.e. the laying, of shellfish in (inter alia) tidal waters in England and Wales. The 1974 Order, made under those powers, prohibits, except under the authority of a licence granted by the Ministry, molluscan shellfish from specific areas being deposited in designated areas of coastal water, in other tidal areas, or on adjacent land where there is a risk that effluent from tanks, pits, ponds or hatcheries may be discharged into designated waters.

Two main changes were made by the 1974 Order:

(a) defence against dangers of introducing new pests was strengthened by forbidding any proposed deposit of molluscs from outside England and Wales unless a licence to do so has been granted by the Ministry;

(b) arrangements for the control of shellfish taken from one area of England and Wales for deposit to another were revised to cover all areas. The pattern of control is similar to that under the previous Order, but the licensing system has been expanded in scope and made flexible enough to allow for variations, if necessary at short notice, to reflect changes in the pest situation.

The 1974 Order contains a Schedule which divides the coasts of England and Wales into 27 areas defined by geographic features. These areas are shown in Figure 1 and are related to the incidence of the major pests which affect

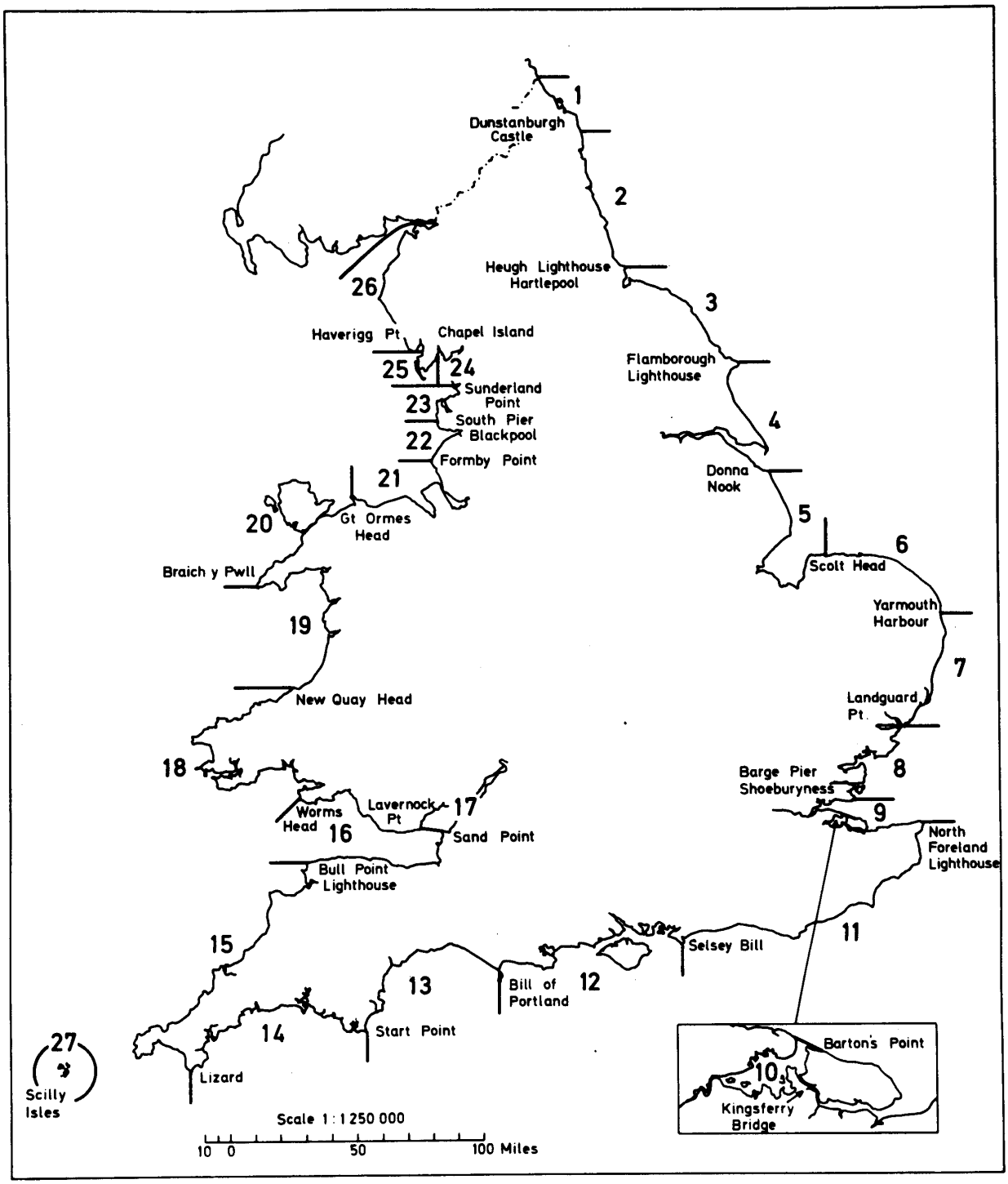

Figure 1 Areas designated and numbered in the Molluscan Shellfish (Control of Deposit) Order 1974.

oysters or mussels and which can also be spread by movements of other species. The actual degree of infestation varies locally of course, but by defining fairly large areas in this way it is possible to have a simpler licensing system than would otherwise be needed. Each area is regarded for the purposes of the Order as separately designated: this means that there is no restriction on movements for deposit within the boundaries of any one area, but that the deposit in one area of shellfish from outside that area (whether from another area of England and Wales or from elsewhere) must be covered by a licence, as explained below.

To enable current shellfish movements to continue without unnecessary administrative work general licences have been issued to known operators setting out those deposits which are permitted and do not require additional licensing arrangements. The general licences now issued allow most of the deposits to be made that were permitted under the 1965 Order and its Amendments. Merchants or planters are not required to obtain additional approval to deposit shellfish within the terms of the general licence, but they must ensure that only deposits approved under the general licence are carried out. If the disease situation changes, it may become necessary to withdraw existing general licences. A new general licence will be issued by the Ministry after notice has been given.

A general licence permits the deposit of shellfish:

(a) anywhere within the designated area from which they are taken;

(b) from one designated area to another having a similar level or type of infestation;

(c) from one designated area to another of higher level of infestation.

The deposits of shellfish taken from one area to another for relaying purposes, at present approved by the Ministry and described in the general licence, are shown in Table 1.

Table 1 Areas from which molluscan shellfish may be taken for depositing in other specified areas under the currently applicable 1974 general licence* (reference numbers are as shown in Figure 1)

Area of deposit	Areas from where shellfish may be taken
1, 3-6, 19-27	1, 3, 5, 6, 19-24, 26, 27
2, 13-18	1-6, 13-27
7, 10-12	1-7, 10-27
8, 9	1-27

*General licences are issued, on application, by the Ministry of Agriculture, Fisheries and Food (Fisheries Division IIC), Great Westminster House, Horseferry Road, London SW1P 2AE.

Within each designated area there may be isolated areas with few pests or where there is no record of pests having occurred. Should planters wish to relay shellfish taken from an area not permitted under the general licence, and particularly from a hatchery, they should consult the local District Inspector of Fisheries who will advise on local conditions and may provide an application form for an individual licence. It would be prudent to allow 21 days for consideration of the application. A list of the offices of the District Inspectors relevant to each area of deposit is given in Table 2.

Table 2 Addresses and telephone numbers of District Inspectors of Fisheries to whom application should be made for individual licences† for depositing molluscan shellfish in designated areas (see Figure 1)

Designated areas	Address of District Inspector of Fisheries
1, 2	Fisheries Office, 15a Union Quay, North Shields (0894-5) 74520
3, 4	Fisheries Office, Customs Building, Albert Dock, Hull (0482) 24963
5-8, 9*	Fisheries Office, 'Sea View', Battery Green Road, Lowestoft (0502) 3419
9*, 10-12	Fisheries Office, 97a All Saints Street, Hastings (0424) 424109
13-15, 16*, 17*	Fisheries Office, Fish Quay, The Barbican, Plymouth (0752) 63804
16*, 17*, 18-20, 21*	Fisheries Office, Fish Docks, Milford Haven, Dyfed (06462) 3412
21*, 22-26	Fisheries Office, 26 London Street, Fleetwood (0391-7) 3515/6

*Part of an area.

† An individual licence will be issued as soon as possible after receipt of an application, but up to 21 days between application and issue may be needed in cases necessitating considerable enquiry.
As the District Inspector of Fisheries may wish to make an inspection of the stock deposited in his area under an individual licence, 7 days prior notice of its date of deposit is usually required as a condition of issue. An additional charge will be made for any inspection or work required as a condition of issue of the individual licence.
In order to facilitate the operation of this system of licensing, planters of molluscan shellfish are requested to make early application for any deposit requiring an individual licence.

THE DEPOSIT OF MOLLUSCAN STOCKS IN RELATION TO BIVALVE HATCHERIES

The movements of shellfish into and from UK hatcheries can be divided into three main categories.

1. Hatchery breeding stock, introduced from UK or north European sources, of a species native to this country

It is regarded as good hatchery practice to obtain breeding stocks from several areas in order to eliminate spawning failures in any one stock due to local natural variations in climate or feeding conditions. It can also be envisaged that stocks from other nearby countries may be required to be imported from time to time. In these circumstances stock brought into the hatchery would not exceed a few hundred at any one time but the introduction of such stocks would require an individual licence. Before this was issued it would be necessary for the Ministry to be satisfied that adequate precautions would be taken to isolate the shellfish, to treat any effluent water, and subsequently to dispose of the stock so that no new introduction of pests into the coastal area adjacent to the hatchery area occurred. Good management of the hatchery would be important and provisions for inspection of the premises would be included in the conditions of a licence.

2. Breeding stock, obtained by hatcheries, of exotic species which are not native to the waters of the UK or north Europe

Commercial hatcheries in England and Wales are at present breeding the Pacific oyster (Crassostrea gigas) in large quantities and it is likely that additional strains and new species may be periodically required for trials in British waters.

The International Council for the Exploration of the Sea has developed a code of practice which includes recommendations for member countries to adopt for supervision of these introductions. These internationally recognized recommendations involve a thorough examination of all proposed new importations in their natural environment and an assessment of the probable effects of the introduction in the new area. Should it be decided to test the importation of a new species of marine animal, an individual licence would be required and the stock must be bred in quarantine and a continuing study made of the species in its new environment. Should the need arise to import exotic species for breeding purposes, the intending importer should, at the time of licence application, discuss with scientists of the appropriate MAFF laboratory how and where such quarantine arrangements can be made. It must be recognized that the appraisal of a new stock or species for relaying in waters of England and Wales may take several years.

3. Seed distributed from hatcheries

Hatchery rearing involves keeping the spat in the local untreated water for a period, so if the spat are moved elsewhere there is inevitably a possibility of transferring any predators, competitors or disease occurring in the vicinity of the hatchery. The degree of risk varies considerably according to the circumstances at the hatchery site and the time of year. Spat carry less risk if, for

example, they are (i) small and exposed to contamination for a short time, (ii) produced and disposed of outside the breeding season of the pests, (iii) held away from the sea bed in rafts or land-based flow trays.

Shellfish produced from hatcheries can be divided into two groups: those which have been grown on the sea bed and which can normally be expected to be more than 1 year old, and those which are less than 1 year old and have never been in contact with the sea bed. The first group are liable to contamination by pests or disease in the same way as any other local stocks; these shellfish will be subject to the restrictions of the Molluscan Shellfish (Control of Deposit) Order in the normal way. The restrictions of the Molluscan Shellfish (Control of Deposit) Order also apply to shellfish which are less than 1 year old, even if they have never been in contact with the sea bed, but deposits of stocks in addition to those allowed by the general licence, may be permitted by individual licences in the following circumstances:

(a) Movements from an area infested with Crepidula and Mytilicola to one which is not infested with these pests
Newly-settled limpets can be removed from small oysters by means of brine dipping. Provided that these procedures are carefully carried out, it is considered that Crepidula can be eliminated from the stocks of small oysters before these are relaid in an uncontaminated area. Mytilicola does not infect very small shellfish and the breeding season of this pest is restricted in many areas. It is therefore possible that deposits of young shellfish of restricted lengths may be permitted into areas free from this pest. Further information may be obtained from the Ministry laboratories at Conwy or Burnham-on-Crouch.

(b) Movements from an area infested by the American oyster drill (Urosalpinx cinerea)
Because this is such a damaging pest to the oyster industry it is vital to prevent its further spread. It is essential that only after full consultation with MAFF scientists should stocks be taken from hatcheries in areas where this animal occurs for depositing in Urosalpinx-free areas. If an individual licence is issued it will carry the necessary conditions to make the risk of contamination by this pest negligible. The accidental contamination of stocks of seed by newly-hatched Urosalpinx must be a constant risk in an area where it occurs, and at present no practical method of treatment for total removal of the free-living stages is known. It is therefore evident that the most stringent controls to prevent the contamination of hatchery stocks must be adopted.

Any prospective hatchery operator should, if possible, avoid the use of an area inhabited by Urosalpinx as a hatchery site or as a growing area for seed, if it is subsequently planned to move stocks into uninfected areas.

PESTS AND DISEASES NOT INCLUDED IN THE PRESENT CONTROL MEASURES

The Molluscan Shellfish (Control of Deposit) Order does not take into account all the known pests and diseases of shellfish around our coasts. The European oyster drill (Ocenebra erinacea) still occurs in many areas along the south and south-west coasts, although it has largely disappeared from the east

coast where Urosalpinx has so successfully established itself. Deposits of shellfish from areas infested with Ocenebra to grounds free from this pest (other than those on the east coast) are normally prohibited for other reasons (e.g. contamination by Crepidula or Mytilicola). It is therefore not considered necessary to have special provisions with regard to Ocenebra at the present time.

Shell disease of oysters also occurs in many areas and is thought to be ubiquitous throughout Europe. This disease, which can be a serious problem in local areas, would be extremely difficult to control by regulation of stocks, but members of the oyster industry are reminded that it is advisable to avoid moving stocks from areas heavily infected with shell disease to those where infection levels are low.

Other diseases of both known and unknown origin occur from time to time and it may be necessary for the Ministry to exercise its powers to prevent movements of diseased stocks so that a disease is not spread. It is recognized that this may cause temporary problems for the industry, but any such restrictions will be imposed only where they are considered to be in the best interests of the fishery.

CONCLUSION

From this account it is apparent that the prevention of the introduction and spread of shellfish pests around our coasts is a formidable problem requiring the attention of scientists, legislators and the industry.

The commercial operations of shellfish merchants have undoubtedly been hampered to some extent by the restrictions imposed by the 1965 and 1974 Orders. Whilst some commercial interests may consider these restrictions too severe, it is notable that, since the introduction of the 1965 Order, there has been little evidence of the further spread of Urosalpinx and Mytilicola, and the spread of Crepidula has been slow and due largely to natural dispersion of larvae along the coast. Without these controls, further disease of shellfish stocks could almost certainly have been introduced into our shellfish-growing regions in recent years from France. It is therefore essential that the industry continues to observe the requirements of the Order as it has done so far, and so prevent further deterioration of the situation.

With regard to the risks from imported shellfish, these continue to increase. For various reasons the industry is attracted by the availability of seed from abroad. In view of the known and unknown risks associated with foreign stock, it is recommended that requests for licences to import shellfish should be made only when alternative UK sources of oysters, whether from hatcheries or from spatting areas, are no longer available. The continuing importation of exotic stock into continental Europe, and continuing mortalities, emphasize the potential risk to the fisheries of this country.

At present hatcheries operating in pest-infected areas cannot be exempted from the restrictions imposed by the Molluscan Shellfish (Control of Deposit) Order. In time, and with considerably more experience of handling large numbers of small hatchery-produced seed, this may be possible, but for the present each proposed deposit not permitted by the general licence must be considered in the light of the risks; where this is acceptable, individual licences will be granted.

Every effort will be made to restrict the spread of pests and disease without imposing unnecessary restrictions on the movement of hatchery-produced stocks.

RECENT LABORATORY LEAFLETS

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No. 26 The Cockle and its Fisheries. April 1972
No. 27 Prawn Culture in the United Kingdom: its status and potential. June 1972
No. 28 The Fishery for the Pink Shrimp, Pandalus montagui, in the Wash. June 1973
No. 29 The Impact of Mechanical Harvesting on the Thames Estuary Cockle Fishery. November 1973
No. 30 Norfolk Crab Investigations, 1969-73. November 1975
No. 31 Oyster Fisheries of England and Wales. 1976
No. 32 Mackerel Research in the South-West of England. 1976
No. 33 The Crab Fishery of South-West England - management proposals. 1976

A full list of Directorate of Fisheries Research Publications currently available appears in the Ministry's Catalogue of Departmental Publications, obtainable from: Ministry of Agriculture, Fisheries and Food (Publications), Tolcarne Drive, Pinner, Middlesex HA5 2DT.

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