

Aequipecten opercularis fishery management plan

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**Isle of Man
Government**

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1. BACKGROUND

The queen scallop, *Aequipecten opercularis*, fishery prosecuted around the Isle of Man was entered for assessment against MSC criteria of sustainability in 2008. The unit of assessment was initially defined as the otter trawl fishery for queen scallops operating within the Isle of Man's 12 nautical mile territorial sea, with an original deadline for completion of the assessment of June 2009. The unit of assessment was subsequently changed to include dredging vessels, with a revised completion date of June 2010. The fishery does not appear to be under threat of decline and the environmental impacts of the fishery are small compared to the great scallop, *Pecten maximus*, fishery which operates in the same area. However, the queen scallop fishery is currently subject to minimal controls. To ensure the continued profitability of this fishery and to mitigate against environmental impacts of the fishery several new management measures are set out in this report. The key aims in managing the fishery are to conserve and enhance queen scallop populations, to limit collateral damage to bycatch species and seabed habitats, to increase catch per unit effort and to achieve MSC certification of the fishery.

It is intended to incorporate the points of this plan into a new byelaw, applicable to all vessels licensed to fish within the Territorial Sea, by June 1st 2010. Assent for this byelaw will be required from all 4 UK Administrations, a lengthy process that will require it to be out for public consultation by 1st March 2010.

2. MANAGEMENT SYSTEMS

Overview

The proposed management process has four key stages.

1. **Data collection and archiving.** Data on the spatial location of fishing activity and the quantity of queen scallops caught is fundamental to limiting fishing effort and landings to appropriate levels. Data must be delivered to DAFF within 48 hours of catches being landed.
2. **Data processing and dissemination.** Data on landings will be updated on a daily basis. Raw data will be processed twice-yearly to spatially reference catches. Results will be made available to relevant management groups twice-yearly.
3. **Recommendations.** Management recommendations will be provided annually before June.
4. **Management decisions.** Management measures to be implemented will be agreed annually.

Science provision

Data management. All data pertaining to the queen scallop fishery will be submitted to DAFF. This data will be made available to scientific personnel for processing and analysis.

Personnel. Scientific research is currently undertaken by Bangor University and a crewman/scientific officer on FPV Barrule. Bangor University employ two full-time staff to work on the Isle of Man's fishery research, and the project is led by Prof. Michel Kaiser. Additional advice is provided by Marine Scotland.

Queen scallop fishery management group

Management. The fishery management group will be responsible for implementing scientific recommendations and legal requirements set by DAFF. The management group will consist of ten members:

- Independent chair
- Isle of Man based processor
- Isle of Man based processor
- Isle of Man based fisher
- Isle of Man based fisher
- Scotland based processor
- Scotland based fisher
- Fisheries policy and management advisor (DAFF representative)
- Conservation advisor (DAFF representative)
- Independent scientific advisor

Neither the DAFF representatives nor scientific advisor will have voting powers within the management group. It is possible that this working group will develop into a Producer's Organisation recognised by the European Commission, which may invoke EU Common Organisation of the Market (COM) legislation, to introduce marketing regulations for queen scallops across the whole of the Eastern Irish Sea.

3. STOCKS

Overview

The relative abundance of queens scallops has shown a general increase since 1992. During this time landings have also increased. Landings remain well below the maximum of over 7,000 tonnes by Manx vessels alone, the majority taken by toothed dredges, observed in 1972. However, landings cannot continue to increase with stock size indefinitely. Therefore, several controls on landings and fishing effort will be implemented. Existing scientific information does not elucidate the relationships between queen scallop spawning stock biomass and recruitment to the fishery, and it is unlikely this relationship will be understood over the next few years. Consequently, a precautionary approach must be taken to managing stocks. The present management system is insufficient to ensure sustainable exploitation of the queen scallop populations (see Murray *et al.*, 2009); therefore, several additional management measures are proposed.

Sustaining and enhancing stocks

Four principal management systems will be in place to safeguard queen scallop populations. These measures will ensure that detailed and accurate information on fishing activity and catches is available on a near real-time basis. Furthermore, a cap will be placed on catches to prevent over-exploitation of queen scallop stocks.

Total Allowable Catch (TAC). It is proposed that a TAC will be set according to the abundance index derived from biannual surveys, currently undertaken from RV Prince Madog. The methodology for setting this TAC is described by Murray *et al.* (2009).

Minimum landing size. The minimum landing size for queen scallops will be raised from 40 mm to 50 mm. Recent research found no mortality in queen scallops following mechanical grading, and minimal impact on the scallops' escape response (Montgomery, 2008).

Vessel Monitoring System (VMS). All vessels prosecuting the fishery have been fitted with tamper resistant VMS transceivers, that report to DAFF, and to Fisheries Control Centres in London, Edinburgh and Cardiff.

Electronic catch logging system. It is intended that vessels prosecuting the fishery will be fitted with electronic catch logging systems, although this may not be mandatory in the initial year of the fishery.

Harvest strategy

There are two distinct fisheries for queen scallops, a short summer trawl fishery, for roe-on product, which ceases when the roes have gone in early October, and a winter dredge fishery, for roe-off product. During periods of calm weather, the factor limiting production of roe-on queen scallops is processing capacity, and vessels are often subject to daily or weekly landings quotas based on this. If demand and processing capacity is increased then the TAC will limit landings.

4. HABITATS AND BYCATCH

Overview

It is an aim of the Isle of Man government to become a signatory to the Convention on Biological Diversity (CBD). Currently, protection of habitats and ETPs is implemented through the Wildlife Act (1990) and local byelaws. Recent research suggested that both toothed and toothless dredges caught a greater proportion of bycatch and caused more damage to seabed organisms than otter trawls (see Hinz *et al.*, 2009). However, the increased catch efficiency of toothless dredges means that they sweep smaller areas of seabed for a given catch. Therefore, if landings are restricted by a TAC then the total area of seabed fished will be much lower with toothless dredges than if traditional toothed dredges were used. In addition, spatial and temporal restrictions on dredging will be implemented.

Habitat protection

Three key limits on effort distribution will be applied:

No dredging within 3 nautical mile zone. Dredging for queen scallops will be prohibited within the 3 nautical mile zone. This will apply to both toothed and toothless dredges.

No dredging between 1st June and 31st October. No dredging for queen scallops will be undertaken between these dates within the Isle of Man Territorial Sea. Most queen scallops around the Isle of Man

are likely to spawn between June and October (Allison, 1993). Thus reducing fishing effort and seabed damage during this period may help to enhance spawning success and larval settlement.

Spatial restrictions on dredging. Dredging for queen scallops will be prohibited over areas of seabed which will be determined by June 2010. It is proposed that maerl beds are protected from mobile fishing gear. Fishing with mobile gear may be prohibited within areas containing live maerl by the introduction of a byelaw. A candidate site for protection has been identified in Ramsey Bay, adjacent to queen scallop fishing grounds. Other patches of maerl have been observed in Douglas Bay, in which the use of mobile fishing gear is prohibited. Further inshore surveys may be required to identify the extent of all maerl beds.

Bycatch

Bycatch is unavoidable in the fishery. However, recent work suggests that bycatch species constitute only a small proportion of catches, that the species caught are not endangered or at risk, and that the impact on the seabed is minimal (Duncan, 2009). No cod or spurdog, which are at particular risk of overfishing, were found in two recent studies (Montgomery, 2008; Hinz *et al.*, 2009). The percentage of bycatch in the Isle of Man otter trawl queen scallop fishery also appears to be much lower than in the *Nephrops norvegicus* fisheries. Discarded bycatch in the Clyde Sea *Nephrops* fishery for example, has been found to constitute 71% of the catch in the south Clyde and 84% in the north (Bergmann *et al.*, 2002). Bycatch in the toothless dredge portion of the Isle of Man queen scallop fishery is composed predominantly of invertebrates, particularly the common starfish, *Asterias rubens* (Hinz *et al.*, 2009). However, lesser-spotted dogfish, *Scyliorhinus canicula*, were also common in the bycatch. The survival rate of *S. canicula* caught with beam trawls is very high, at $\geq 92\%$ (Revill *et al.*, 2005). It is likely that survival rates will be similarly high in the queen scallop fishery.

Cod recovery plan. Under the cod recovery plan, there is a limit on the days spent at sea by otter trawling vessels. In 2009 vessels towing 70-99mm otter trawls were allowed to fish up to a maximum of 168 days a year in the Irish Sea. However, Manx otter trawl vessels do not fish for queen scallops in the winter, and presently this legislation has no impact on their effort in the queen scallop fishery.

5. ACTIONS TO BE TAKEN BY JUNE 2010

- Designate members of management group, and agree constitution
- Identify areas to be closed to queen scallop fishing, and additional areas to be closed to queen scallop dredging
- Install electronic catch logging systems on vessels prosecuting the queen scallop fishery
- Ban dredging for queen scallops within 3 nautical miles of the Isle of Man
- Set a TAC for 2010 and agree the methodology for setting the TAC in future years
- Review report on bycatch in the fishery and implement suitable management measures
- Put in place a byelaw, with UK concurrence, applicable to all UK registered vessels, to enable enforcement of the actions outlined above

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