



Aim

To review the traceability research the Marine Management Organisation (MMO) has undertaken to date and to provide information that could facilitate the fishing industry to track fish end-to-end in the supply chain.

Introduction and methodology

In the UK it is a legal requirement for fish to be traceable from catch to consumption or export. As the regulator for England's seas, the MMO has the responsibility to effectively manage fishing activity, for which correct and timely data from industry is required. In practice, compliance with reporting regulations is highly variable. Full traceability is now a requirement for seafood products in the EU, which has major implications for England's seafood industry who export products to the EU. The MMO's Traceability Programme seeks to research and address the causes of non-compliance with data submission and improve traceability throughout seafood supply chains.

The outputs of this project comprise two paired reports. The first reviews the findings from previous evidence projects carried out by the MMO on seafood traceability as well as providing a summary of the key drivers for change and opportunities for facilitation by the MMO for the fishing sector to increase traceability. The second report describes real-world case studies where there have been improvements to end-to-end traceability and digitisation, for which information was gathered from published literature, websites and direct communication with relevant organisations.

Results

An investigation into the types of seafood supply chains in England found varying levels of traceability depending on the supply chain and market context. In some supply chains traceability can only be achieved to a group of vessels, whereas other supply chains have more effective traceability due to vertical integration of its vessels and primary processors.

A range of benefits of traceability were identified, which can be grouped into three broad categories – health, wealth and environment. Examples of benefits include protecting consumer health by ensuring unsafe products can quickly be identified and removed from sale, preventing food fraud, increasing market access by allowing producers to meet requirements to sell their products, cost savings from reducing the scale of recalls, and preventing Illegal, Unreported and Unregulated (IUU) fish products being sold on global markets. However, a number of challenges for implementing traceability were also identified. For example, challenges associated with the additional burden of any new reporting requirements and new technologies, complications around aggregation of fish after first sale, and concerns over data security.

A previous MMO project (MMO1329_3) researched and tested technologies that offer the greatest promise in delivering end-to-end traceability, including the use of QR code labelling and Radio Frequency Identification (RFID) tags connected to a secure cloud-based centralised database. A prototype end-to-end traceability system was developed to demonstrate how it could be used by industry to track fish and seafood products from catch through to the consumer. This showed that end-to-end traceability can be achieved using relatively low-cost technology, which has the potential to enable traceability at a more affordable cost.



There are a number of drivers for change towards greater traceability of seafood, with the EU revised control regulation being one of the most important. As of January 2026, full digital traceability along the supply chain is mandatory in the EU and applies to all UK producers who export products into the EU. Other drivers for change include risks of illegal fishing and seafood fraud, changing consumer attitudes towards sustainable products and human rights issues.

The MMO is keen to facilitate the fishing sector to increase supply chain traceability, which could be through providing grants and funding for traceability systems or initiatives, or by giving demonstrations of technological solutions and communicating the benefits of traceability.

Several examples were found of seafood supply chains that have made efforts to improve end-to-end traceability and digitisation using technology such as QR codes, RFID tags and blockchain. There appears to be limited use of enhanced traceability systems in England, so the examples included in the report are global.

Conclusions and recommendations

This review has found that technological solutions exist to improve traceability in the seafood industry, however there aren't currently sufficient drivers for businesses to invest in new systems and ways of working to improve the accuracy and timeliness of catch and sales data.

Although there are only few examples of full end-to-end traceability implemented in English supply chains, significant progress towards this has been made in a range of cases, which demonstrates that it is possible to implement improved traceability in seafood supply chains. The case studies provide many useful lessons for future implementation of technological solutions for traceability in the English seafood industry.

Full-chain traceability has the potential to unlock huge opportunities for the seafood industry in England in the coming years. Although there are challenges to be faced in achieving this, the MMO's goal is to support the fishing sector in taking this positive step towards becoming increasingly viable and resilient in the future.

MMO comments

The MMO is keen to facilitate the fishing sector in increasing supply chain traceability and introducing greater tracking of fish and data end-to-end throughout the supply chain. As such, moving forwards the MMO will seek to increase industry understanding of the value of traceability information to encourage more accurate and timely submission, support the fishing industry through grants for traceability initiatives where possible, and consider trialling new technology for traceability in English supply chains. A number of potential changes in MMO systems have also been identified which could make traceability easier for industry.

Further information

Please direct any correspondence to the Evidence Team (evidence@marinemanagement.org.uk)