



Aim

The aim of this study was to collect baseline data to be used in future impact evaluations of new fisheries management measures. The study developed an impact evaluation framework and a baseline against indicators in the framework for future evaluations.

Introduction and methodology

An increase in the quota of Dover sole (*Solea solea*) resulted in an increase in fishing effort within Lyme Bay. This caused increased competition for space, gear conflict, reduction in volume of sole catches, and the size of fish caught. The MMO consulted with fishers, scientists, policy makers and fisheries managers to capture views on the environmental, social, and economic sustainability of the sole fishery in the Lyme Bay area. As a result, the MMO introduced new fisheries management measures.

This study involved co-development of a Theory of Change (ToC) between the contractor and MMO. The ToC is used to explain how the new management measures are intended to work and the benefits and impacts they are intended to bring. An evaluation framework was subsequently developed, drawing on the ToC. The evaluation framework includes a set of evaluation questions. Questions focus on exploring the economic, social and ecological impacts to be delivered by new management measures. Each evaluation question has indicators that identify the information needed to answer it. Baseline data was collected against the indicators and a counterfactual described drawing on the baseline data. The counterfactual represents the evolution of the baseline to 2028 and is used to describe what is projected to have happened had the new management measures not been implemented.

Results

The key baseline findings were that there are concerning trends for Lyme Bay Fishermen's Community Interest Company (CIC) and under 10m (u10m) fishers within Lyme Bay. U10m fishers reported challenges in netting for sole due to difficulties in finding safe spaces to shoot nets, leading to concerns over gear loss, ghost fishing, and impact on Dover sole. This is linked to over 10m (o10m) vessels increasing their fishing effort and their associated landings. At the same time, u10m fishers are expending more effort for decreasing amounts of sole. Profits have decreased year on year for CIC fishers since 2017, resulting in 2021 profits being lower than they were in 2011.

The counterfactual uses baseline data trends and projects them to 2028. It provides a narrative of the situation in 2028 and represents a situation that could exist if management measures were not implemented. Key issues seen in the baseline data would be expected to continue to result in smaller vessel skippers (u10m) experiencing increased levels of stress and operating costs due to gear conflict. This, alongside an estimated reduction in days at sea of 62% and reduction in catch per unit effort of 67%, would increase financial difficulties for smaller vessels. As a result, more of them would be expected to stop netting for sole by 2028. Based on recent trends, there would be around 45 u10m vessels fishing for sole in 2028, reduced from 250 u10m vessels in 2015, and 132 vessels in 2022 (see Figure 1). Landings at Axmouth, Beer, Lyme Regis and West Bay continue to decrease as a result. Landings of sole become dominated by the over 10m vessels at



Brixham and Mevagissey. These changes would result in continued and increasing dissatisfaction with the MMO, which may result in increased lobbying by u10m vessels to the MMO for measures to be introduced. This would increase engagement costs to the MMO and degrade relationships.

Figure 1: The decreasing number of under 10m vessels netting for sole in Lyme Bay (Fishing boat icon courtesy of Chavarria J: <https://www.flaticon.com/free-icons/fishing>)



Conclusions and recommendations

The study provides the basis for undertaking an impact evaluation of new management measures. Impacts of new management measures can be compared against the counterfactual in future. This comparison can be used to assess the benefits of management measures. Recommendations for MMO are:

- Undertake an impact evaluation in January 2025 at the earliest to allow a minimum of one year of data to be collected.
- Consider putting in place approaches to collect data for any indicators that were missing during development of the evaluation framework.
- Begin communicating the need to obtain input from fishers as early as possible to encourage engagement with the impact evaluation so their opinions can be captured.

MMO comments

The results from this baseline data and developed impact evaluation framework can be used by the fisheries management team to provide immediate understanding and conduct future impact evaluations to better understand the current state of play of fishing in Lyme Bay with particular focus on Dover sole and the attendant social, economic and environmental impacts of the new management measures in Lyme Bay. Additionally, the recommendation to commission a full-scale impact evaluation by January 2025 should be considered to fill the identified data gap.

Further information

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