

## Amendments to research report ‘Understanding Mortality of European Sea Bass (*Dicentrarchus labrax*) in Small-Scale Inshore Netting’

### 1. Background

At the Devon and Severn IFCA’s Byelaw and Permitting Sub-Committee (B&PSC) meeting of 31<sup>st</sup> August 2023, SEO Stewart presented a report to Members (Agenda Item 6), titled ‘Understanding Mortality of European Sea Bass (*Dicentrarchus labrax*) in Small-Scale Inshore Netting’ (V1.0). SEO Stewart explained that Officers had conducted research with the University of Plymouth and a local fisher, using short-medium term ‘vitality assessments’ and longer-term acoustic tagging data for sea bass caught in gillnets in order to assess the impact of small-scale inshore netting activities on sea bass.

#### Aims of the research

The key aims of the research were to better understand the impacts of small-scale inshore netting activities on sea bass, by:

- (i) Using robust visual assessments to assess the short- and medium term impacts of netting on sea bass condition and mortality, and
- (ii) Using acoustic tagging to assess the longer-term impacts of netting on sea bass mortality and behaviour.

#### Comments from Members

The Chair asked if Members had any comments or questions for Officers to address. Extensive discussions ensued, in particular with Jon Dornom, who had previously identified himself to Members as the fisher involved in the research. These discussions culminated in Mike Williams suggesting that SEO Stewart had further dialogue with Mr Dornom to discuss some elements of the report where they had differences and potentially make amendments. Cllr Dewhirst supported this suggestion. The review process continued in October 2023, when Mr Dornom provided SEO Stewart with written comments on a hard copy of the report. These comments are available on request.

This paper provides a summary of the outcomes of the review process, followed by a summary of the main substantive comments, any action taken in response, and any implications for the conclusions. Mr Dornom’s comments are shown in *blue italic text* where necessary). The revised report (version 1.1) is available as a [standalone research report](#). The revised report (version 1.1) also accounts for comments made by Members during discussions at the meeting of 31<sup>st</sup> August 2023. In order to maintain an audit trail of the review process, Officers have also produced a more detailed breakdown of responses to all comments. This document has been provided to Mr Dornom and is available on request.

### 2. Outcomes

Overall, the presentation of the research report has been improved by the careful consideration of Members, in particular Mr Dornom. However, the main findings and conclusions have not materially changed as a consequence of the review process. These are as follows:

- The research identified a mortality rate of 18.8% for sea bass caught in shallow-set gillnets with short (12–80 minute) soak times.

- This mortality estimate is lower than for nets or trawls with longer soak times, but higher than in commercial or recreational hook-caught fisheries.
- When accounting for all sources of uncertainty associated with the study, it is likely that the mortality rate would be substantially higher than 18.8% in real-world fishing conditions.
- The evidence shows that mortality is often delayed, such that mortality is unlikely to be seen by fishers at the vessel during normal discarding processes. Therefore, anecdotal observations of discard survival may be unreliable.
- The best-case 18.8% discard mortality is likely to be a cause for concern given that estuaries represent highly-used essential habitat for juvenile and adult sea bass, and that the sea bass spawning stock biomass remains depleted relative to past levels and below the MSY threshold.

### 3. Amendment details

**Use of the term ‘mortality’:** Mr Dornom noted the use of the term “mortality”, and re-expressed his opinion that it would be more appropriate to focus on “survivability”. While it is recognised that the term mortality may be viewed by some as having negative connotations, it is also important to recognise that this term is commonly used in scientific reporting of this kind. More importantly, the data collected are only able to accurately describe *known mortality*, rather than also being able to describe *known survivability*. This is because an unknown proportion of released bass (at least those that were not acoustically tagged) may have experienced delayed mortality which the research has been unable to quantify. Therefore, confirming a *known survivability* is not possible as the fate of those fish is unknown. The known mortality is therefore a minimum estimate of actual mortality.

***On the basis of the issues outlined above, the use of the term mortality has been retained throughout the report, and survivability estimates have not been provided.***

**Nature of fishing activities:** Mr Dornom expressed his feeling that the netting activities conducted during the study were not representative of what would be “normal fishing activity”, and that the fishing was targeted to the species required for tagging (bass in the 2022 sampling year, both bass and mullet in the 2023 sampling year). Mr Dornom also maintained that it is possible to target mullet in estuaries with minimal bycatch of sea bass, and that he targeted species that were required for the acoustic tagging carried out by University of Plymouth. Though Officers recognise that specific species were preferred for the tagging work of University of Plymouth (bass in both years, mullet in 2023), the initial intention for the study had been to carry out netting activities as they would historically have been carried out. However, discussions with Mr Dornom have highlighted that this may not have been his understanding or approach to the netting at the time. Therefore, ***wording in the methods (section 2.2) which referred to “normal fishing activities” has been removed.***

**Catch composition:** Mr Dornom commented in several areas that the report implies large bycatch of sea bass but that this would not be the case if specifically targeting mullet in a limited net fishery, as he believes that sea bass could be avoided in such activities. ***Officers have acknowledged explicitly in the report that the fisher involved believes that a targeted mullet fishery is likely to have a substantially lower sea bass bycatch rate. This has included rewording part of section 4.5 and a related part of the Executive Summary, while the text in the results section was modified as outlined below. However, the report also retains the context that previous tagging work has shown high levels of bass activity in this mullet hotspot (especially at tidal states when***

**netting is most likely), and that the distribution of sea bass across the estuary is unpredictable.**

**Some additional minor textual edits have been incorporated as suggested by Mr Dornom (for example, in sections 3.2 and 4.5).**

**Scope of the study:** Mr Dornom expressed concern that content in the conclusions was “*Outside remit of the study*”, “*all too biased[...]*” and that the last sentence in particular should be removed as in his view it is “*All hypothetical*”. However, the text in question is based on a range of scientific evidence from the reported study, previous research conducted by D&S IFCA and University of Plymouth, as well as many studies into sea bass biology, behaviour and stock status. Officers consider it to be important to draw on the best available evidence to contextualise the findings of the current study, to enable readers to understand the implications of the findings of the study. ***With that in mind, the text has been retained in its original form.***

**Provision of supplementary data: *The supplementary data on catch composition (presented at the August 2023 B&PSC meeting) have been added to the report.***

**Other comments:** As outlined above, Officers have taken time to consider each comment raised by Members including Mr Dornom. For example, the final paragraph of section 4.1 (page 20) discusses how 67% of the sea bass that died in the study showed delayed mortality that would not have been immediately evident at the point of capture (and release). This is discussed in the report in relation to previous studies showing that most post-release mortality does not occur immediately, but instead occurs in the hours or days after release. On the basis of this evidence, Officers concluded that mortality is unlikely to be seen by fishers at the vessel. Mr Dornom objected to the subsequent conclusion at the end of this paragraph that “[...] therefore anecdotal observations of discard survival may be unreliable”. ***This text has been retained in the report***, as it is a logical conclusion from the observations made, essentially that scientists or fishers releasing fish immediately after capture are unlikely to know whether or not those discards have later died as a result.

*All comments and their respective responses are detailed in full in a review document which has been provided to Mr Dornom and is available on request.*

## **Background Papers**

[Research Report: Understanding Mortality of European Sea Bass \(\*Dicentrarchus labrax\*\) in Small-Scale Inshore Netting – Research Report – V1.0 \(22<sup>nd</sup> August 2023\).](#)

[Draft Minutes from the B&PSC meeting of 31<sup>st</sup> August 2023.](#)

J. Dornom comments on a hard copy of the report ‘Understanding Mortality of European Sea Bass (*Dicentrarchus labrax*) in Small-Scale Inshore Netting’ (version 1.0) (comments available on request as a PDF scan of the hard copy).

[Research Report: Understanding Mortality of European Sea Bass \(\*Dicentrarchus labrax\*\) in Small-Scale Inshore Netting – Research Report – V1.1 \(31<sup>st</sup> October 2023\).](#)

End.