

Secretary of State, Defra
Bridgwater Barrier TWAO Team, Defra

12/02/2020

TWAO proposal: Bridgwater Tidal Barrier ACL/SZC/005182.0001

To whom it may concern,

I am writing on behalf of Devon and Severn Inshore Fisheries and Conservation Authority (D&S IFCA) to provide our comments on the TWAO proposal listed above. The main concerns for D&S IFCA pertain to the fish species that comprise the estuarine fish assemblage sub-feature of the Severn Estuary EMS. Specifically, our concerns relate to potential impacts of the proposed developments on juvenile fish from this assemblage which may use the estuary of the River Parrett, and areas between the estuary and the proposed barrier scheme. We believe these impacts have not been given full and appropriate consideration.

The reports submitted as part of the TWAO application consider possible impacts of pollution during the construction phase. The assessments highlight that risks from pollution during construction “will be managed through the use of an Environmental Action Plan”, and claim that “there will be no mechanism for significant changes to water chemistry to occur from pollution events”. The TWAO application documentation also suggests that pollution events are unlikely to influence the estuarine fish assemblage sub-feature of the Severn Estuary EMS due to the distance of the proposed works from the EMS. Therefore, effects of pollution on Severn Estuary EMS Qualifying Features were not considered further in the Appropriate Assessment. However, we have some concerns regarding the validity of this conclusion.

Firstly, the Environmental Action Plan is lacking in detail on how pollution events will be prevented and managed, making it impossible to assess the likely efficacy of any actions, or the consequences for the fish assemblage. In addition, the Parrett is tidally influenced up to 34 km inland from the mouth at Steart Point to Oath Lock, and the average limit of saline intrusion is around 24km landward of Steart Point. This is reflected in the salinity values of the water samples taken at the trawl and seine sampling points. These relatively high salinities are within the tolerances of, for example, juvenile bass (*Dicentrarchus labrax*).¹ The Parrett estuary is a proposed Bass Nursery area, and juvenile sea bass are known to move upstream into river systems.²⁻⁴ This highlights the potential for this (and other) euryhaline species from the Severn Estuary EMS assemblage to be affected by pollution and sedimentation further upstream, closer to the barrier works than is otherwise suggested in the TWAO application documents. Sea bass are part of the wider assemblage of fish species that are a designated feature of the Ramsar Site and a component of the estuary feature of the Severn Estuary SAC. These impacts, in addition to sedimentation during barrier operation may also be a key concern for designated migratory fish species within the River Parrett (salmon, trout and eel), though these species fall under the remit of the Environment Agency, rather than D&S IFCA.

Overall, this evidence points to potential impacts of pollution and sedimentation on marine, estuarine and migratory fish species occurring nearer to the proposed barrier location than is otherwise suggested in the TWAO application documents. D&S IFCA believes the significance of these potential impacts should be better reflected and considered in the report. Young (0-group) bass would normally be expected to move into estuaries in spring or early summer, but recent sampling at Steart marshes (Plymouth University/ D&S IFCA) did not detect this age class until late summer/early autumn, suggesting that more information is required on bass movements in this area. Consequently, we also suggest that the fish sampling that has been carried out by APEM is unlikely to allow reliable detection of fish species, such as bass, that differ in their estuary space use over time, and may only be present in the area during discrete periods. Consequently, potential impacts of the developments on fish species may have been overlooked.

I hope the points raised here will be (i) considered during the forthcoming process, (ii) used to support re-evaluation of the previous exclusion from the Appropriate Assessment of pollution effects on Severn Estuary EMS qualifying features, and (iii) used to ensure as far as possible that pollution events are minimised and controlled. Return correspondence may be addressed to me at Devon and Severn IFCA, using the address above.

Yours sincerely



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References

1. Pickett, G. D. & Pawson, M. G. (1994). *Sea Bass: Biology, Exploitation and Conservation*. (Chapman and Hall).
2. Devon and Severn Inshore Fisheries and Conservation Authority (2016). Devon and Severn IFCA's response to the Defra call for evidence and impacts for new and existing Bass Nursery Areas.
3. Barnabé, G. (1989). L'élevage du loup et de la daurade. in *Aquaculture*, vol. 2 (ed. Barnabé, G.) 657–720 (Lavoisier Technique et Documentation).
4. Devon and Severn Inshore Fisheries and Conservation Authority (2015). European Sea Bass (*Dicentrarchus labrax*) in the Inner Severn Estuary (including South Gloucestershire and Gloucestershire).