

The Basking Shark (*Cetorhinus maximus*) in West Cornwall: Key sites, anthropogenic threats and their implications for conservation of the species

The Wildlife Trusts Basking Shark Project conducted six years of effort corrected line transect surveys in the waters of South Devon and Cornwall between 1999 and 2004 to establish key sites for the basking shark (*Cetorhinus maximus*).

The report sets out the results achieved by the study over the six-year period, and examines the factors influencing shark selection of these key sites, the long-term conservation implications of that site selection, and recommends practical initiatives to safeguard the sharks within those key sites, where necessary.

What was done

This study set out to examine whether the key sites established were consistently important, not just during a cyclical period of high levels of surface sightings, but also during a low period in the cycle when fewer sharks were sighted.

Emphasis was also placed on establishing the incidence of behavioural activity such as courtship and breaching, consistent with reproductive activity. A careful record was also kept of shark size, with a view to establishing the presence (and spatial and temporal distribution) of sharks <2m in size. This would represent young of the year, and might therefore suggest that parturition takes place within the region seasonally or cyclically.

Finally, the study sought to identify potential threats of an anthropogenic nature to the basking shark within the key sites, such as by-catch, ship strike (surface collision with craft) and disturbance. It was beyond the scope of the project to quantify the implications of each of the

individual threats identified. Nonetheless it has been possible for the report to suggest ways in which these factors might be quantified, evaluated and mitigated against in simple, practical ways.

Results and conclusions

In the first three-year phase (1999-2001) the survey covered the entire south-west coast between the Isles of Scilly in the West, to Torbay in the East, in an effort to discover sites showing high levels of surface sightings - key sites. Two such key sites were identified as a result of these surveys, both in West Cornwall, namely the Lizard peninsula and the Lands End peninsula.

The second survey (2002 - 2004) entailed more than a simple development of the existing structure, and was considerably modified in both spatial and temporal scale. A total of 56 sharks were sighted on transect during the survey periods 2002-2004. Overall, assessing the full three years of survey,

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the area between the Lizard and the Runnelstone buoy (Area 5) represents a consistently good area, replicating the results from the first survey period.

The conservation measures established so far have largely been driven by the relative scarcity of the basking shark, recognising the depleted status of the population in the Northeast Atlantic. However, no attempt has been made so far to establish site specific protection measures for the species. The results achieved in this study suggest that this should now be considered, at least in areas where breeding populations regularly frequent and identifiable threats of an anthropogenic nature could cause an impact on these vital and vulnerable groups.

This 2 sites identified in this study - Lands End and the Lizard Peninsula - that consistently show high levels of surface sightings (during both high and low periods of abundance) are also areas in which above average levels of human activity, both commercial and leisure based take place, and where reproductive type behaviour has consistently been recorded. The report suggests that the following protective type measures should be considered within these key sites:

- Educational measures to reduce the levels of surface collision, targeted at Masters of commercial and leisure craft navigating through these areas.
- A joint evaluation with local inshore fishermen to establish annual levels of shark bycatch within the sites, and to see whether there are particular localities or types of gear that are implicated.
- Further emphasis on the reduction of potential impacts of commercial marine ecotourism activities, such as speed reduction in the most critical areas on a seasonal basis.
- Promotion of Codes of Conduct, public sightings recording schemes, projects to encourage monitoring of the local population and greater public awareness of the presence of sharks within these important sites.

- Consideration should be given to the potential application of site-based protection measures for the key sites.

Natural England's viewpoint

Natural England welcomes this report and the results achieved over the 6 year study period, including the identification of key sites for surface sightings, namely the Lizard peninsula and the Lands End peninsula. The results achieved in this study suggest that establishing site specific protection measures for the species should now be considered, at least in areas that record high levels of surface sightings and where breeding populations regularly frequent.

Selected References

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Further information

For the full details of the research covered by this information note see Natural England Research Report NERR018 *The Basking Shark (Cetorhinus maximus) in West Cornwall: Key sites, anthropogenic threats and their implications for conservation of the species.*

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