

ADDENDUM 2

**ADDITIONAL COMMENTS ON THE PROPOSAL FOR THE INCLUSION OF
THE SMOOTH HAMMERHEAD SHARK (*Sphyrna zygaena*)
IN APPENDIX II OF THE CONVENTION
UNEP/CMS/COP13/Doc.27.1.9(b)**

(Submitted by the European Union)

The following provides a brief synthesis and update of the migratory nature and conservation and population status of Smooth Hammerheads. An assessment of the proposal has also been produced by the IUCN Shark Specialist Group.

The Smooth Hammerhead is considered to be of 'unfavourable conservation status', as documented in the EU and Brazilian proposals, and as also noted in the Scientific Council comments arising from ScC-SC4¹, and in the review by the Sharks MOU Advisory Committee².

Furthermore, the Scientific Council "*agreed that the species meets the criteria for "migratory", except for the Australian population*". This Addendum provides further information regarding the Australian population, and its migratory nature.

Whilst accurate data are limited, it is highly likely that Smooth Hammerhead Sharks display similar types of behaviour as seen in other regions. The original proposal and the comments from the Sharks MOU AC indicate that, in general terms, Smooth Hammerheads display a latitudinal seasonal migration in continental shelf seas, with larger individuals also undertaking offshore migrations. The latter is evidenced by the presence of oceanic squid in the diets of large Smooth Hammerhead caught off southern Africa (Smale & Cliff, 1998) and South America (Gonzalez-Pestana et al., 2017), and recent tagging studies (Santos & Coelho, 2018).

Whilst it is acknowledged that data are limited, available information indicates that adult Smooth Hammerhead move into offshore, oceanic waters, and pup in shallow waters. Hence, it is highly likely that mature female Smooth Hammerhead cross jurisdictional boundaries (from EEZs to the high seas), with movements into shallower water for reproductive purposes (pupping), which would thus indicate seasonality. That mature females display such behaviour indicates that a "significant proportion" of the population displays this migratory behaviour. Recent genetic studies have indicated that philopatry may occur in Smooth Hammerhead (Félix-López et al., 2019), with mature females giving birth in the same areas.

The Smooth Hammerhead is a temperate and subtropical shark, and is distributed largely along the western, eastern and southern coastlines of Australia. Whilst seasonal, latitudinal migrations, as observed in other parts of the world, would not result in this population of Smooth Hammerhead crossing jurisdictional boundaries, the offshore migration of mature Smooth Hammerhead Sharks likely occurs. Although direct evidence is limited for Australia and New Zealand, there are published studies that would support the offshore movements of Smooth Hammerheads (e.g. Stevens, 1984; Francis, 2016).

¹ see https://www.cms.int/sites/default/files/document/cms_scc_crp.11.1.9_listing-proposal-smooth-hammerhead-shark_e.pdf

² See https://www.cms.int/sites/default/files/document/cms_scc-sc4_inf.4_comments-on-amendments-to-appendices-submitted-to-cop13_e.pdf

Stevens (1984), examining the recreational catches of sharks off New South Wales observed a clear seasonality in Smooth Hammerheads, with individuals present from September to May. In terms of large individuals, no large (>260 cm) males were observed, with large females (>260 cm) caught. These data also indicate that mature females would enter the waters of New South Wales to give birth (January to March).

Francis (2016) noted that most available data for Smooth Hammerheads in New Zealand waters related to immature individuals, and he considered that “[t]he whereabouts of adults for most of the year is unknown. They may seasonally inhabit or pass through oceanic waters or regions to the north of New Zealand”. The data presented by Francis (2016) conform with the hypothesis that mature Smooth Hammerheads occur offshore, and move into shelf seas to give birth. Furthermore, Francis (2016) noted that “there is no genetic structuring between New Zealand and Australia, suggesting the existence of gene flow across the Tasman Sea”.

Given the genetic similarity of Smooth Hammerheads in the Australasian region, as noted by Francis (2016), and that mature females show a clear migration into coastal waters to give birth in the waters of Australia and New Zealand (Stevens, 1984; Francis, 2016), the mature fish are likely to be occurring in the Tasman Sea and adjacent areas and thus undertaking seasonal migrations across jurisdictional boundaries as part of their reproductive behaviour.

References

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