

12<sup>th</sup> April 2023

To the National Geographic Society,

**Support Letter for Dr Rui Rosa - *An ancient brain on the edge of extinction: understanding shark behaviour and cognition***

I am happy to support this research proposal by Dr Rosa on the behaviour of hammerhead sharks. The research is highly novel in linking social behaviour and cognition research of sharks in experimental 'seapens' with telemetry studies of their free-ranging movements and philopatry to understand how hammerheads in an essential nursery learn to explore their world and to select new habitats. Understanding these deep behavioural processes at the individual level through innovative longitudinal studies will enable an unparalleled insight into why hammerheads behave the way they do, and when, in relation to environmental changes, and consequently what this means for the outcome of their interactions with anthropogenic threats such as habitat modifications and fishing gear.

The proposed research comes at a crucial time. Populations of hammerheads have declined precipitously over the last half century due to the effects of habitat loss and overfishing. Hammerheads are much less resilient than some other large coastal-pelagic sharks to such impacts which makes them highly vulnerable. For example, the seas surrounding the Cabo Verde islands, where Dr Rosa has identified a unique field site to undertake the research, is a global longline fishing hotspot. Hammerhead sharks are caught on longlines much more frequently than reported in official landings records, and with huge discards and very high at-vessel mortality – about 70% of individuals are already dead when brought alongside a longliner compared to only 22% of endangered shortfin mako sharks that are captured. So, there is an urgent need to understand what behaviours determine the essential habitat of hammerheads, key data which will be necessary to conserve their dwindling populations.

The proposed research is very important for hammerhead shark conservation, will be undertaken by an excellent researcher with a very strong research track record, and I very much hope it will be funded.

Yours sincerely



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