



Proposed use of CCSBT Research Mortality Allowance to facilitate electronic tagging of SBT as part of Australia's contributions to SBT research in 2012/13 and 2013/14

Karen Evans, Toby Patterson, Jason Hartog and Campbell Davies

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Wealth from Oceans Flagship

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Abstract

A total of 5 tonnes of research mortality allowance is requested to continue initiatives focused on investigating the spatial dynamics and mortality rates of southern bluefin tuna utilising electronic tagging techniques.

Proposal

Australia is proposing to continue previous tagging initiatives aimed at the examining the spatial dynamics (movements, mixing, residency, regional fidelity and frequency of spawning migrations) of southern bluefin tuna (SBT). This study involves the tagging of SBT across a range of sizes (25 – 100 kg) with acoustic, archival and pop-up satellite archival tags (a combination of mini-PATs and regular PSATs) throughout the south-eastern Australian region in 2012-13 and 2013-14. Results of earlier initiatives are provided in Gunn and Patterson (2003); Patterson et al. (2005); Gunn et al. (2006); Evans and Patterson (2007), Patterson et al. (2008) and Evans et al. (2012) and work is currently underway writing up collaborative efforts with New Zealand which include deployments in the eastern Tasman Sea (reported in CCSBT-ESC/0809/SBT Fisheries – New Zealand and CCSBT-ESC/0909/SBT Fisheries – New Zealand). Data from these projects are integral in spatial management procedures of the Australian Commonwealth Fishery implemented by the Australian Fisheries Management Authority. Use of these data in spatial management is detailed in Hobday and Hartmann (2006), Hobday et al. (2011) and Hartog et al. (2011).

Tagging efforts to date have been critical in improving our understanding of the spatial dynamics and habitat use of SBT and are fundamental to the ongoing spatial management of the fishery. Use of similar, and newer technology (mini-PATs) in this next phase of research to that used previously will allow us to add to current understanding of the spatial dynamics of juvenile and adult SBT and better understand the spatial dynamics of medium size ranges of SBT (30+ kg), data for which are currently lacking. Continued tagging of larger size classes will allow for better understanding and characterization of spawning migrations, data which is relevant to the parameterisation of spawning stock biomass (SSB) in the operating model and refinement of close-kin estimates of SSB. Continued refinement of habitat preference characterisation will be useful for better informing CPUE analyses and standardisation into the future, particularly for ages classes 5+ of fish. Success of tagging initiatives to date suggests that ongoing releases of electronic tags on SBT are feasible and cost effective. Thus, Australia proposes to continue tagging initiatives. This study is proposing to release in the order of 100 -150 tags on SBT ranging in size from 20 kg to 100+ kg and so therefore the CCSBT is requested to allocate 5 tonnes of Research Mortality. This proposal extends the RMA request granted in 2011, to cover SBT tagging over the years 2012-13 to 2013-14, noting that none of the RMA requested in 2011 has yet been used.

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CONTACT US

t 1300 363 400
+61 3 9545 2176
e enquiries@csiro.au
w www.csiro.au

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Wealth from Oceans Flagship
CSIRO Marine and Atmospheric Research
Karen Evans
t +61 3 6232 5222
e karen.evans@csiro.au
w www.csiro.au