



Proposed use of CCSBT Research Mortality Allowance to facilitate electronic and genetic tagging of SBT as part of Australia's contributions to scientific research in 2009-10

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Abstract

A total of 10 tonnes of research mortality allowance is requested to continue initiatives focused on investigating the spatial dynamics, population size, mortality rates and spawning stock size of southern bluefin tuna as part of the CCSBT Scientific Research Program.

Proposal

As part of the CCSBT Scientific Research Program, Australia is proposing to continue tagging initiatives in 2009-10 aimed at the examining the spatial dynamics (movements, mixing, residency, regional fidelity and frequency of spawning migrations) of adult southern bluefin tuna (SBT). This is likely to involve the tagging of adult SBT with archival and pop-up satellite archival tags throughout the Australian region. Results of the progress to date are provided in Gunn and Patterson (2003); Patterson et al. (2005); Gunn et al. (2006); Evans and Patterson (2007) and Patterson et al. (2008). The results provide the first records of inter-oceanic migration (both Pacific-Indian and Indian-Atlantic) and spawning in adult SBT and extensive usage of the Tasman Sea region. Collaborative efforts with NZ resulting in deployments of PSATs in the eastern Tasman Sea support similar demonstrated movements. The success of both projects in tagging significant numbers of large SBT, and reductions in mortalities associated with tagging, suggest that ongoing tag releases of large SBT are feasible and cost effective. Thus, Australia proposes to continue the tagging. This study is proposing to release in the order of 20 tags on adult SBT and so therefore the CCSBT is requested to allocate 5 tonnes of Research Mortality.

Additionally, Australia is proposing to support the continued release of archival tags on juvenile SBT (to supplement the existing set of tags released and returned under the project on the Global spatial dynamics of juvenile SBT; Basson et al. 2009), release of passive integrated responders and collection of genetic material in support of two projects; the first utilising close-kin genetics to estimate absolute spawning stock size and the second utilising gene-tagging to estimate population size and mortality rates in this species. Results of the progress to date from archival tag releases on juvenile SBT have been presented in working papers to the CCSBT-SC (e.g. Polacheck et al. 1998; Eveson and Polacheck 2005; Hearn et al. 2007 Polacheck and Eveson 2007) and also in Polacheck et al. (2002); Pollock et al. (2002); Hearn and Polacheck (2003); Eveson et al (2004); Polacheck et al. (2004); Polacheck et al. (2006). Details of the passive integrated responder project can be referred to in Harley et al. (2008). Details of the close kin genetics project can be referred to in Bravington and Grewe (2007) and Bravington and Grew (2008) and details of the gene-tagging project in Davies et al. (2008). This group of projects is proposing to biopsy, tag and release the juvenile SBT and we request and we requests 5 tonnes of Research Mortality to cover these activities.

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