Making NDFs for shortfin mako in ABNJ near New Zealand

A migratory species with shared stocks

Hugh Robertson

NZ Scientific Authority

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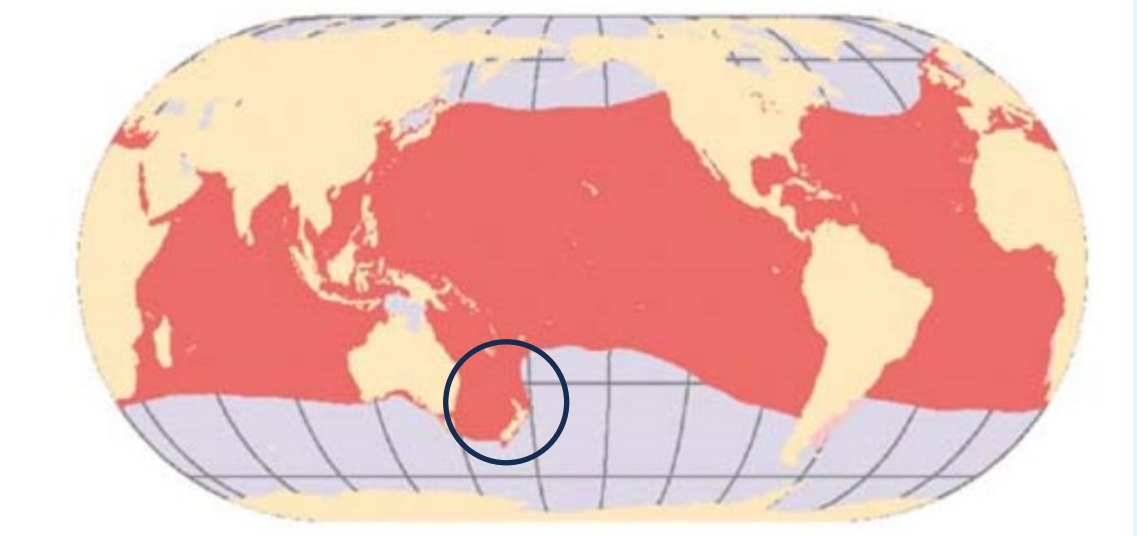
New Zealand's NDF for Shortfin Mako *Isurus oxyrinchus*

Making NDFs for shortfin mako in ABNJ near NZ

- Shortfin Mako (*Isurus oxyrinchus*) was listed on CITES Appendix II in November 2019 following CoP18 (Geneva 2019).
- Large “endangered” pelagic shark with a global distribution in temperate and tropical waters.



Global distribution of Shortfin Mako; from FAO, based on Compagno (2001).

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- Mainly caught as bycatch in tuna long-line fisheries.
- Some stocks are in poor condition (e.g., Atlantic Ocean), whereas others appear to be in good or at least stable condition (e.g., North Pacific Ocean and SW Pacific Ocean basin), but a 2018 stock assessment for WCPFC had high estimation uncertainty and poor representation of mature females in commercial fishing data in the SW Pacific Ocean (Large et al. 2022).
- Genetic research shows three distinct stocks in the Pacific Ocean: North, SE and SW (including NZ) with little mixing, especially across the Equator (Corrigan et al. 2018).

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- Fisheries NZ (part of the NZ Ministry for Primary Industries) have supported plastic dart tagging of Shortfin Mako by recreational fishers.
- Malcolm Francis and colleagues from the National Institute for Water and Atmospheric Research (NIWA) attached satellite tags to 14 Shortfin Mako in the NZ EEZ.

NIWA

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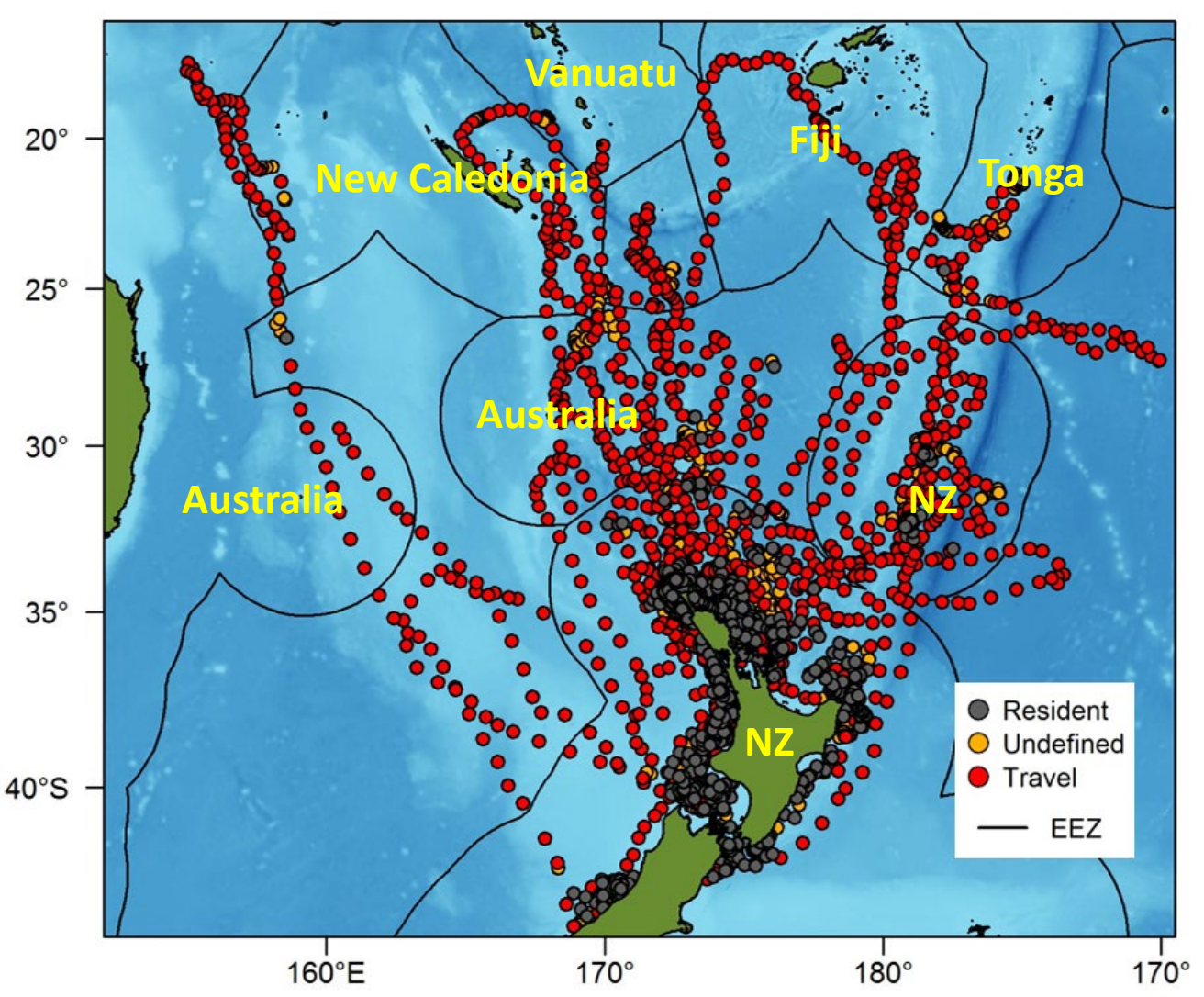

- Satellite tracked for 34 - 588 days (mean 251 days) – all but 1 for over 120 days.
- 13 of 14 satellite-tagged Shortfin Mako left the NZ EEZ.
- They visited the EEZs of 5 other countries.
- Spent 0-58% (median 23%) of their time outside the NZ EEZ.
- Almost all spent some time in ABNJ
- Most returned to NZ EEZ

From Francis et al. (2019)

Making NDFs for shortfin mako in ABNJ near NZ

- Shortfin Mako standard fin-tagged in New Zealand waters move north in autumn-spring, and south in summer.
- 370 of 15,500 standard tagged mako were recovered, mainly by commercial fishers.
- Recoveries throughout the SW Pacific, including west to the eastern seaboard of Australia, north-west to Papua New Guinea and the Solomon Islands, and up to 3700 km away north-east to French Polynesia and eastern Kiribati.
- No NZ-tagged shortfin mako are known to have crossed the Equator.

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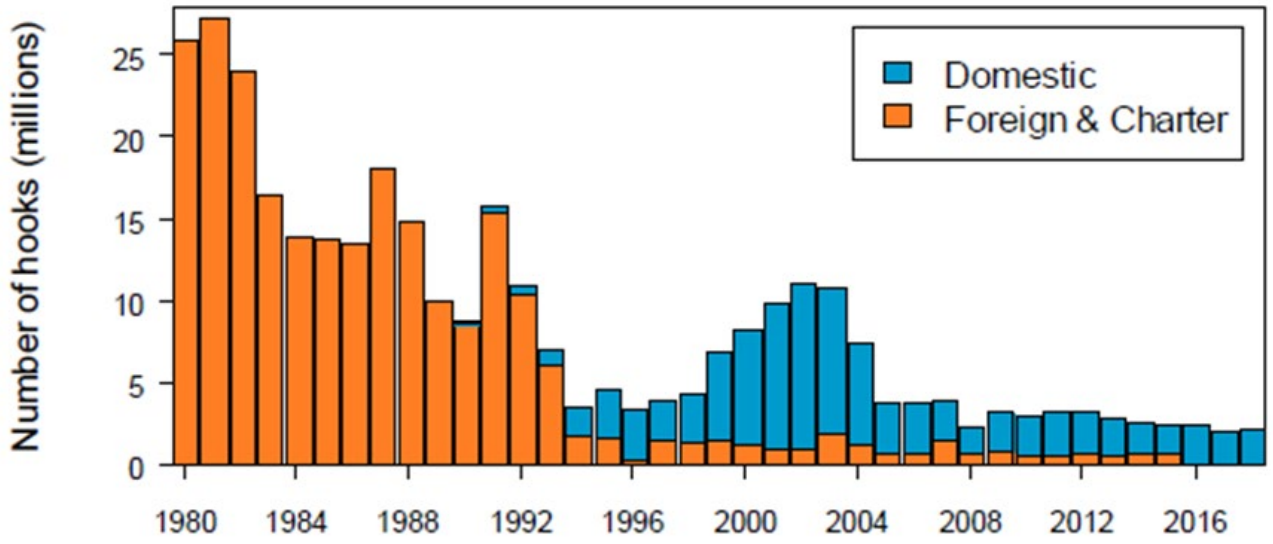
- Conclusion: Shortfin Mako using the NZ EEZ are migratory, returning to NZ waters each year; the stock is shared with many other Parties and non-Parties in the SW Pacific, but not across the equator; and, these sharks often use the “high seas” (ABNJ) on their annual travels.

- Both NZ national and SW Pacific region-wide management seems appropriate.

Making NDFs for shortfin mako in ABNJ near NZ

- Shortfin Mako has been included in Fisheries NZ's Quota Management System (QMS) since 2004.
- Since 2012, the annual total allowable catch has been set at 276 tonnes.
- The actual commercial landings have been 13-41% of the quota.



Note the significant decline in tuna surface longline fishing in NZ's EEZ since the 1980s and, again, since mid-2000s

Making NDFs for shortfin mako in ABNJ near NZ

- Francis et al. (2014) and Francis & Finucci (2019) did an indicator-based analysis of the status of Shortfin Mako in NZ waters based on observed fisheries and FNZ databases – distribution, % catch composition, CPUE, median size, and sex ratio.
- Shortfin Mako using the NZ EEZ declined in the late 1990s, but have increased since c. 2005 and have had variable, yet overall flat trends in the 2010s.
- Most Shortfin Mako are now released alive, especially after a finning ban was introduced in 2015.

Making NDFs for shortfin mako in ABNJ near NZ

- NZ's NDF for Shortfin Mako concludes:
- NZ and SW Pacific stocks have never been a targeted fishery, rather they are a valuable bycatch of tuna longline fisheries.
- Since 2004, their stocks in the NZ EEZ are stable or starting to recover.
- Because they are strongly migratory, this implies that overall recent rates of fishing pressure in the SW Pacific has not been detrimental to their survival (and this observation could be used by neighbouring Parties in making their NDFs).
- Exports of Shortfin Mako caught under the NZ QMS are allowable.
- 20 tonnes/year of IFS is allowed if taken within 500 nm of the EEZ. This equates to 50% of NZ QMS recreational and customary take, neither of which have ever been reached.

Making NDFs for shortfin mako in ABNJ near NZ

- NZ was fortunate that before the Shortfin Mako was listed on CITES Appendix II, we had good local data on the movements and population status of Shortfin Mako.
- Their inclusion in the CITES Appendices requires reporting of landings of catches made on the high seas, and this should improve overall knowledge of the status of each population.
- The results of the NZ research, showing our shared migratory stocks in the SW Pacific are stable or increasing, can be used by our Oceania neighbours when they come to develop their own NDFs.
- Establishing NDFs for migratory, shared stock, and species in ABNJ remains a challenge. A precautionary approach and regional cooperation/ data sharing between Parties and RFMOs are needed.