SC-07-29 (restricted)

Management of other ecosystem components

(Project PAE2021-02)

ToR2: assemble and document the important bycatch species taken during fishing operations within the SIOFA area and undertake Ecological Risk Assessments (ERAs) on these species

Relate to agenda item:7.3

Working paper ☒ Info paper ☐   Restricted ☒

Consultant draft report
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Abstract

Recommendations *(proposals and working papers only)*

A review of important bycatch species taken during fishing operations within the SIOFA area.

Report prepared in accordance with Project PAE2021-02. TOR2: Using SIOFA databases, assemble and document the important bycatch species taken during fishing operations within the SIOFA area and undertake Ecological Risk Assessments (ERAs) on these species.

Executive Summary

Catch data for the period 2016 to 2020 were made available from SIOFA Secretariat and included 3811 individual fishing operations for demersal longline (n= 2594), trawl (n=1208), hand-operated line (n=237) and pelagic longline (n= 2386).

The definition of bycatch is complicated by uncertainty in the specification of target species, as a result of this the analysis used all taxa reported in catches and each fishery (defined by gear type).

Of the 44 taxa that contributed > 1% of the catch in a fishery 23 were reported at species level and six of these are listed on the IUCN Redlist as either endangered (EN), vulnerable (VU) or near threatened (NT).

Tuna and deepwater sharks were identified as the two main groups of bycatch, as directed fishing for them is prohibited in SIOFA. Tuna taken in pelagic longline fisheries constituted the greatest bycatch by weight and deepwater sharks taken in demersal longline fisheries included the greatest number of high-risk species.

Based on the available catch data and the identification of species of conservation concern the inclusion of Leafscale gulper shark *Centrophorus squamosus* in the category of 'key species of concern" should be considered.

Conducting a semi-quantitative level 2 ecological risk assessment of important bycatch in SIOFA fisheries would require clarity on the target species in a fishery and bycatch reporting at a lower taxonomic level.

Introduction

Undertaking an ecological risk assessment provides a formal mechanism to determine which of the taxa that are caught as bycatch in particular fisheries might be at risk as a consequence of those catches. As with all risk assessments there is a need to establish the likelihood and consequence of an activity to determine the risk. In the context of bycatch species the likelihood of capture of a species can be assessed using catch data, while the consequence for a species is a product of its ecological and population characteristics. In many cases the latter

are not available, however, where species groups have already been identified as high risk these can provide a useful basis for an ecological risk assessment.

Methods

Data from the SIOFA databases provided by the Secretariat

Haul level catch records (number of individual fishing events) by gear type were made available with CCP permission from SIOFA Secretariat for the period 2016 to 2020. Pelagic longline data from Chinese Taipei were provided by the SIOFA Secretariat as 5º x 5º cell and monthly aggregated data for the period 2016 – 2020. Data provided up to 12 Jan 2022 were included in the analysis. This provided data on the catch from 3811 individual fishing operations for demersal longline (n= 2594), trawl (n=1208), hand-operated line (n=237) and aggregated operations for pelagic longline (n= 2386).

Definition of 'important bycatch'

Bycatch is often defined as any catch other than the target species in a fishery. SIOFA typically refers to 'main fisheries' (see for example SIOFA SC-6 Table 2) in which the 'main species' are listed as:

> Patagonian toothfish
> Orange Roughy
> Splendid alfonsino
> Sauridae and scads
> Shallow-water (<200m) snappers, emperors and groupers
> Deeper water snappers, lutjanids, Hapuku
> Deepwater sharks –Portuguese dogfish
> Mackerel and *Brama* spp
> Oilfish

However, it may not be appropriate to assume that these "main species "are in fact target species, as targeting of Portuguese dogfish is prohibited since 2019 under CMM 2019/12. CMM 2021/2 requires the "Intended Target species" to be provided as part of the haul information for demersal and pelagic fishing vessels. An initial review of the data indicated that the proportion of fishing operations for which a target species was nominated was 0.2 for demersal longline, 0.25 for trawl, 0.50 for hand operated line and 0.17 for pelagic longline. To avoid any ambiguity about identifying bycatch species taken during fishing operations with reference to a target species, catch of all taxa reported was reviewed according to gear type (trawl, demersal longline, pelagic longline and hand operated line).