

Commission for Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean (WCPFC)

Ecosystem and Bycatch Specialist Working Group

Conveners' Draft Terms of Reference

The overarching purpose of the Ecosystem and Bycatch Specialist Working Group (EBSWG) is to provide information to the WCPFC to fulfil Articles 5 (d & e) of the Commission's *Principles and measures for conservation and management*; namely that the Commission will:

“assess the impacts of fishing, other human activities and environmental factors on target stocks, non-target species, and species belonging to the same ecosystem or dependent upon or associated with the target stocks”.

“adopt measures to minimize waste, discards, catch by lost or abandoned gear, pollution originating from fishing vessels, catch of non-target species, both fish and non-fish species, (hereinafter referred to as non-target species) and impacts on associated or dependent species, in particular endangered species and promote the development and use of selective, environmentally safe and cost-effective fishing gear and techniques”,

“protect biodiversity in the marine environment”

To achieve this, the EBSWG will review the impact on fishing on components of the ecosystem not targeted by fisheries, especially sharks, seabirds and turtles; the interactions between climate and environmental factors and the target bycatch species, and the development of ecosystem-based models to assist the Commission with the development of management decisions.

The functions of the Ecosystem and Bycatch Specialist Working Group shall be to:

Bycatch

- Review annual estimates of non-target species
- Assess the impacts of fishing, other human activities and environmental factors on the ecosystem and biodiversity, including non-target, associated and dependent species, and habitats of special concern.
- Evaluate measures to minimize impacts of fishing on non target, associated and dependent species and habitats of special concern.

Ecosystem modeling

- Review the results of research projects to support ecosystem modeling such as trophic studies and species interactions.
- Review impacts of pelagic fisheries on the pelagic ecosystem through ecosystem models such as SEAPODYM and ECOSIM/ECOPATH.
- Review impacts of the environment on pelagic fisheries and stocks e.g., large scale work on pelagic ecosystem modelling, and more local scale ecosystem modelling at national level, including impacts on seamounts.
- Promote the development of new modelling approaches to investigate ecosystem impacts from fishing and environmentally driven processes, and ultimately to provide reliable prediction of changes in the spatio-temporal dynamics of the stocks and main components of the pelagic ecosystem.

Reporting

- Prepare the reports of the EBSWG, including recommendations to the Scientific Committee and WCPFC on the research to support and develop ecosystem models, and on bycatch estimation and mitigation research.

Overlap with other SWG

- Note the overlap between the EBSWG and the other SWGs as follows:
 - bycatch mitigation methods, which minimize the selectivity of non target and protected species will also be of interest to **FTWG**
 - the fundamental biological properties of incidentally caught species such as sharks and billfish relate to interactions structuring ecosystems and will be of interest to the **BWG**
 - technical aspects of ecological models should also be scrutinised by the **MWG** (as occurs for stock assessment models)
 - environmental variability discussed in EBSWG will also be of interest to the **SAWG** and may need to be explicitly accounted for in the assessments themselves