Potential impacts on habitat of longline gear loss

Wakayama albacore tuna fishery

Background of the fishery

In Wakayama albacore tuna fishery, the about 100 km long longlines are set at depths of about 150 to 200 meters, with the hooks either of circle or J-type. The tori-poles (bird streamers) are encouraged to be used on the longline vessels to reduce incidental catch of albatross and other seabirds.

Current studies on longlines impacts

Incidental mortality

As the tuna longline fishery are usually set near the surface to catch tuna, sea birds tend to be the most susceptible species in this fishery (Tasker et al., 2000). The mortalities of creatures are mostly caused by the entanglement and hooking, both for active longlines and ghost gears. Nevertheless, limited studies on fishing mortality and gear loss were conducted compared with gillnets and trap gears, and the mortality rates of longline ghost fishing have been proved to be low from these studies (ICES, 2000; Huse, Løkkeborg, and Soldal, 2000).

Info from Birdlife
http://www.birdlife.org/worldwide/news/speaking-your-language-save-albatrosses
Tori-pole, weighted branch lines, and night setting are 3 methods for reducing seabird bycatch. RFMOs require that vessels use at least 2 methods.
https://www.birdlife.org/asia/news/japan-home-one-third-all-seabirds-so-we-mapped-its-waters

Impact on habitat

Christopher K. Pham, et al. have done a study about the impact of the deep-water longline fishing on the vulnerable marine ecosystems (VMEs), and the results demonstrated that the deep-sea bottom longline fishing has little impact on VMEs, reducing bycatch of cold-water corals and limiting additional damage to benthic communities. Compared with deep-sea longline, the tuna longline fisheries are less likely to contact with the sea bed since they are operated at depths of less than 200 meters, which suggests that the impacts on the marine habitat from tuna longline fisheries would be minimal.

Summary

In most respects long-lining is a conservation-oriented fishing method tending to catch mainly target species, and the passive operation of long-line gear cause no destructive effect on marine habitats.

References:

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Tasker, M. L., Camphuysen, C., Cooper, J., Garthe, S., Montevecchi, W. A., and Blaber, S. J. (2000). The impacts of fishing on marine birds. ICES Journal of Marine Science: Journal du Conseil 57, 531–547.