

REPORT OF THE EXPERT PANEL ON A DECLARED COMMERCIAL FISHING ACTIVITY:

FINAL (SMALL PELAGIC FISHERY)
DECLARATION (NO. 2) 2013

March 2015

Letter of transmittal to the Minister

Dear Minister

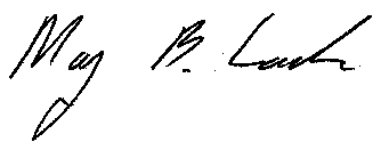
I am pleased to present the report of the Expert Panel on a Declared Commercial Fishing Activity (*Final (Small Pelagic Fishery) Declaration (No. 2) 2013*).

The report assesses and advises on:

1. the likely nature and extent of direct interactions of the declared commercial fishing activities with species protected under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), particularly seals, dolphins and seabirds
2. the potential for any localised depletion of target species (arising from the declared commercial fishing activities) to result in adverse impacts to the Commonwealth marine environment, including the target species' predators protected under the EPBC Act
3. actions that could be taken by operators of the declared commercial fishing activities or relevant regulatory authorities to avoid, reduce and mitigate adverse environmental impacts of the activities
4. monitoring or scientific research that would reduce any uncertainties about the potential for adverse environmental impacts resulting from the declared commercial fishing activities.

The panel's advice on these issues was informed by consultation with national and international experts in the relevant fields, by targeted, commissioned research and by broader stakeholder consultation.

The panel members hope that this report will assist your assessment of the environmental impacts of the declared commercial fishing activities and help inform future government decision making on the Small Pelagic Fishery.



Mary Lack

Chair

Expert Panel on a Declared Commercial Fishing Activity

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Acknowledgements

The expert panel extends its sincere thanks to the members of its secretariat: Mr Nathan Hanna, Ms Genine Sutton, Dr Candace McBride and Ms Leila Bouhafs of the Sustainable Fisheries Section, and to Ms Carolyn Armstrong of the Environmental Resources Information Network, in the Department of the Environment. The panel appreciates and values the time and effort of the experts, researchers, fishing industry members, government agencies and advisory bodies, conservation groups, Indigenous groups and recreational fishing organisations that provided advice, data and their views to inform the panel’s assessments of the first and second declarations.

Executive summary

Background

The *Final (Small Pelagic Fishery) Declaration (No. 2) 2013* prohibited mid-water trawl operations with storage capacity of 1600 tonnes (t) or more from fishing for or receiving quota species from other catching vessels in the area of the Small Pelagic Fishery (SPF) for up to two years while an expert panel (the panel) undertook an assessment of the potential for the declared commercial fishing activities (DCFAs) to cause adverse environmental impacts.

The panel has assessed the direct impacts of the DCFAs on species protected under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) (EPBC Act), particularly seals, dolphins and seabirds, and the adverse impacts of any localised depletion of SPF target species caused by the DCFAs on the Commonwealth marine environment, including on the target species' predators protected under the EPBC Act. Based on that assessment, advice has been provided on actions that could be taken to avoid, reduce and mitigate any adverse environmental impacts and scientific research and monitoring that could reduce uncertainties about those impacts. A synthesis of the panel's assessment and advice is presented in Chapter 7 and an overview of the key outcomes is provided below.

The DCFAs

The DCFAs are:

- (a) The mid-water trawl activity (MTA), which is a commercial fishing activity that:
 - i. is in the SPF
 - ii. uses the mid-water trawl method
 - iii. uses a vessel which has a storage capacity for fish or fish products of 1600 t or greater.
- (b) The fish processing activity (FPA), which is a commercial fishing activity that:
 - i. is in the SPF
 - ii. uses a vessel which has storage capacity for fish or fish products of 1600 t or greater
 - iii. consists of receiving or processing fish or fish products that are quota species that have been taken in the SPF.

Mid-water trawl activity

The MTA differs from the declared commercial fishing activity (DCFA1) under the *Final (Small Pelagic Fishery) Declaration 2012* only in that its storage capacity is reduced by 400 t. The panel found that the uncertainties around the pattern of fishing likely to be undertaken by the DCFA1 applied equally to the MTA. The panel considered that its assessment was not sufficiently sensitive to detect any differential impacts on the nature and extent of direct interactions with protected species arising from a 400 t reduction in capacity. In relation to localised depletion, the panel considered that the reduced storage capacity of the MTA may reduce the extent of localised depletion and the risks associated with adverse impact arising from such depletion. Conversely, the reduced capacity to stay at sea may provide an incentive to stay in a localised area for more extended periods, thereby increasing the extent of localised depletion, compared to the more wide-ranging activity possible under DCFA1. Given the uncertainties associated with the fishing pattern of the MTA, the panel considered that it was unlikely that it could detect any meaningful distinction between the likely impact of localised depletion caused by the MTA and DCFA1.

As a result, the panel's assessment of, and advice on, the MTA is the same as that of the DCFA1 reported in the panel's first declaration report (Expert Panel on a Declared Commercial Fishing Activity 2014, Executive Summary).

Fish processing activity

Assessment of direct interactions with protected species

There are 241 species protected under the EPBC Act that occur in the SPF area, including pinnipeds, cetaceans, dugong (possible but unlikely), seabirds, turtles, seasnakes, sharks and rays, syngnathids and other teleost fishes. The panel focussed its assessment on species considered at increased risk of interactions from mid-water trawling: three species of pinnipeds (Australian fur seal *Arctocephalus pusillus doriferus*, New Zealand fur seal *A. forsteri* and Australian sea lion *Neophoca cinerea*), 36 cetacean species, and seabirds as a group. Some common themes with respect to the likely nature and extent of direct interactions by the DCFA with these species are apparent across the taxa:

- It is inevitable that the FPA would have direct interactions with protected species of pinnipeds, cetaceans and seabirds and some interactions will result in mortalities regardless of the adoption of the best available mitigation and management measures; however, there remains uncertainty about the extent of those interactions.
- It is possible to identify the likely nature of the interactions and the species that are more likely to interact or are more vulnerable to interactions.
- The direct impact of the processing vessel on protected species is likely to be restricted to vessel strike with cetacean species.
- There remains considerable uncertainty about the level of direct interactions that would result in an adverse environmental impact on pinnipeds, cetaceans and seabirds, but there are opportunities for research and monitoring that could reduce the uncertainties associated with the FPA's interaction with protected species.
- Some progress has been made, domestically and internationally, on measures to manage the risks of direct interactions between fishing operations and pinnipeds and dolphins, but these mitigation measures need further development and testing before they could be applied with confidence.
- Substantial progress has been made on measures to manage the risks associated with direct interactions of fishing operations with seabirds in mid-water trawl gear.
- Risks to seabirds from purse seine fishing are considered to be generally low but there have been significant interactions with flesh-footed shearwaters in one Australian purse seine fishery, demonstrating that proximity to breeding and foraging sites as well as the time of day that fishing is conducted may be important factors to take into account when mitigating against seabird interactions in purse seine fisheries.
- Management and mitigation measures, individually and as a package, require testing and refinement to ensure their operation is optimised in the context of the fishery, the protected species, the vessel, its gear and the fishing plan.

Compared to the typical SPF fleet, the panel considered that:

- there would be more effort under the FPA and this would likely result in a greater number of interactions
- the FPA scenario would likely result in increased bycatch mortality of pinnipeds, dolphins and seabirds given that the FPA fleet configuration includes more mid-water trawl and less purse seine vessels
- if the presence of the processing vessel allows fishing to extend into areas not previously fished or more intensive fishing of some areas, it is reasonable to expect a change in both the rate of interactions and the protected species involved, for example the FPA may result in interactions with all three pinniped species rather than just fur seals.

Compared to DCFA1, the panel considered that:

- The number of interactions with protected species under the FPA may be less, similar or more depending on the comparative levels of effort and catch under each scenario. For example, if the mid-water trawlers in the wet boat catching fleet of the FPA need to expend more fishing effort to take the same amount of catch as the DCFA1 fishing vessel, then the number of interactions could be higher. The panel could not predict with any certainty the relative levels of effort in the catching fleets under DCFA1 and the FPA.
- The FPA fleet would be more constrained in terms of the additional area of the fishery that can be fished (wet boats will remain constrained by the need to refuel and return to port regularly). This may mean that the FPA fleet is more likely to fish closer inshore than DCFA1 and potentially have more interactions with protected central place forager (CPF) species of pinnipeds (such as the fur seals and sea lions), seabirds and cetaceans, especially short-beaked common dolphins *Delphinus delphis*.

Assessment and advice on localised depletion

The panel interpreted localised depletion as a spatial and temporal reduction in the abundance of a targeted fish species that results from fishing. The central issue for the panel's assessment was whether the fishing activity of the FPA could be concentrated enough, both spatially and temporally, to cause a localised depletion of the target species sufficient to cause adverse environmental impacts to the Commonwealth marine environment. The panel assessed the potential impact of localised depletion arising from the FPA on the target species and on protected species of CPFs. The key points arising from that assessment are:

- The target species of the SPF are susceptible to capture but also have characteristics that are likely to reduce the temporal and spatial extent of localised depletion.
- The available evidence does not suggest that past extensive fishing activity for jack mackerel *Trachurus declivis* in the area of the SPF has significantly affected reproductive capacity or caused impacts on genetic diversity in that stock; nor does available evidence suggest an adverse impact on age or size structure of the other SPF target species.
- The dependency on near-colony prey resources at certain locations and times increases the vulnerability of protected species of CPFs to localised depletion of SPF target species, and the nature and extent of the impact will depend on the spatial and temporal scale of the depletion.
- Very few studies anywhere in the world have linked reduced foraging and reproductive performance of CPFs to the impacts of fishing, and even fewer to localised depletion. Active management of the potential impacts of localised depletion on CPF species is rare.
- The available data suggest that the CPF species at greatest risk from localised depletion in the SPF are the Australian fur seal, New Zealand fur seal, Australasian gannet *Morus serrator*, short-tailed shearwater *Ardenna tenuirostris*, little penguin *Eudyptula minor*, crested tern *Thalasseus bergii* and shy albatross *Thalassarche cauta* and that key foraging areas for these species within the SPF are Bass Strait, Tasmania and South Australia.
- There remains uncertainty about the importance of SPF target species to other CPFs and predators, because diet information is poor or unavailable.
- The ecosystem modelling studies available indicate that the SPF target species are not as influential in the southern Australian ecosystem compared to small pelagic species in other more productive upwelling systems around the world that support much larger biomasses of similar species.
- A recent review of the SPF Harvest Strategy suggests that current exploitation rates of target species in the SPF are unlikely to cause adverse environmental impacts to the broader ecosystem and that the 'ecological allocation' to predators and the broader ecosystem is adequate.
- The storage capacity of the processing vessel is not relevant to the assessment of the potential for the FPA to cause localised depletion.
- The ability to tranship at sea would potentially allow for the catching fleet to increase its effort and hence the extent of localised depletion compared to operations in the past but this would be constrained by the need for the catching fleet to regularly return to port to refuel.

The panel concluded that given the present management regime in place in the SPF, any localised depletion of SPF target species that might arise from the FPA was unlikely to affect the overall status of the target stocks in the SPF. The panel considered that localised depletion caused by the FPA has the potential to have adverse impacts on CPF species and that under the current monitoring regime it is unlikely that such impacts would be detected. It is possible to provide an indication of the CPF species most at risk from localised depletion but dietary data are lacking for many other CPF species. It is not possible, based on currently available data, to determine the degree of localised depletion that would result in adverse environmental impacts to protected CPFs.

The panel considered that, given the exploitation rates in place, it was unlikely that localised depletion arising from any of the fishing scenarios considered (DCFA1, MTA, FPA and typical SPF fleet) would affect the overall status of stocks of target species in the SPF. Compared to the typical SPF fleet, the FPA might have a higher potential for adverse impacts on protected CPF species but less potential than DCFA1 or the MTA.

Key advice

The panel has identified management and operational responses and opportunities for research and monitoring to address the risks associated with the impacts of the MTA and the FPA on the Commonwealth marine environment. The risks identified relate to the activities of the catching vessel or fleet rather than the processing vessel or the process of transshipment. The panel considers that the following actions and associated research are central to addressing those risks.

- Mid-water trawl
 - Mitigate bycatch mortality of the threatened Australian sea lion by implementing spatial closures and bycatch trigger limits that encompass foraging areas around all colonies off South Australia and Western Australia.
 - Mitigate bycatch mortality of fur seals by implementing spatial closures especially adjacent to breeding colonies.
 - Mitigate against the potential adverse impacts of localised depletion on protected CPF species by implementing closures that preclude the FPA from critical habitats at important times.
 - Develop and optimise an excluder device or devices for seal and dolphin bycatch mitigation.
 - Once the excluder device is operationalised, use underwater video to monitor the behaviour of marine mammals within the trawl net and in the vicinity of the excluder device to assess its efficacy and quantify levels of cryptic mortality.
 - Introduce a bycatch rate trigger limit for the fishery or fishing area, or a total mortality trigger for a fishing season and/or fishing areas, for fur seals and dolphins.
 - Management actions applied to dolphin interactions in the SPF should be consistent with the current spatial management zones and actions to mitigate dolphin bycatch in the gillnet sector of the Gillnet Hook and Trap Fishery off South Australia.
 - Ensure that move-on rules associated with trigger limits are evidence-based or implemented on a precautionary basis, where necessary.
 - Ensure that seabird vessel management plans reflect the best practice advice of the Agreement for the Conservation of Albatrosses and Petrels and are consistent with the *National recovery plan for threatened albatrosses and giant petrels 2011-2016*.
 - Ensure 100 per cent observer coverage of all mid-water trawl fishing operations to provide confidence that interactions are recorded accurately, the effectiveness of bycatch mitigation devices is monitored and that underwater interactions and mortalities are detected quickly enough to allow any move-on rules to be effected in a timely manner.
- Purse seine
 - Review and update the current SPF purse seine fishery code of practice to ensure it provides best-practice advice on avoiding interactions with, and the handling and release of, protected species.
- Research and monitoring
 - Identify critical habitats for protected species including key foraging areas for central placed foragers (seabirds and pinnipeds) and important habitats used by cetaceans that are at increased risk of interaction with the FPA.
 - Determine the cumulative fishery-related mortality of protected species in the SPF area that interact with the FPA, to ensure that this does not compromise the sustainability of their populations.
 - Confirm the integrity of the current management of SPF target stocks by clarifying the extent of sub-structuring of SPF target species in the Eastern and Western Zones.
 - Validate the reporting of interactions with protected species particularly seabirds and dolphins in all SPF fishing operations.

Concluding comments

The panel's assessment is based on specific MTA and FPA fishing scenarios and associated assumptions. These had a significant bearing on the outcome of its assessment and any changes to those would necessarily affect the validity of the panel's assessment and advice. Further, the panel's assessment should be considered in the context of the role of SPF target species in the southern Australian marine ecosystem, the management regime that controls the catch of those species, and of the cumulative impacts of fishing in the area of the SPF on protected species affected by the DCFA.

Given the distribution of protected species across the SPF it is inevitable that some interactions will occur with any fishing activity, including the MTA and the FPA, even with best-practice mitigation measures in place. The panel's assessment has confirmed that there are considerable uncertainties relating to whether these interactions would have adverse environmental impacts. As in other fisheries facing similar uncertainties, a precautionary and adaptive, risk-based approach to management of the potential impacts of the MTA and the FPA would be required.