



## Commonwealth of Australia

### **Statement of reasons for granting an exemption under section 158 of the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)***

I, Josh Frydenberg, Minister for the Environment and Energy, provide these reasons for my decision under section 158 of the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)* (**EPBC Act**), to grant an exemption for the State of New South Wales, and those acting on behalf of the State of New South Wales, from the application of sections 18, 18A, 20, 20A, 23 and 24A of Part 3 and Parts 7 through to 9 of Chapter 4 of the EPBC Act, in relation to the following **action**:

Further north coast shark mesh net trials during the period of 1 November 2017 to 31 October 2019 inclusive, in accordance with the *Operational requirements for any further NSW north coast shark mesh net trials* (September 2017) attached to the Hon Niall Blair MLC's exemption application dated 4 October 2017.

### **Legislation**

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Section 158 of the EPBC Act provides:

#### **158 Exemptions from Part 3 and this Chapter**

- (1) A person proposing to take a controlled action, or the designated proponent of an action, may apply in writing to the Minister for an exemption from a specified provision of Part 3 or of this Chapter.
- (2) The Minister must decide within 20 business days of receiving the application whether or not to grant the exemption.
- (3) The Minister may, by written notice, exempt a specified person from the application of a specified provision of Part 3 or of this Chapter in relation to a specified action.
- (4) The Minister may do so only if he or she is satisfied that it is in the national interest that the provision not apply in relation to the person or the action.
- (5) In determining the national interest, the Minister may consider Australia's defence or security or a national emergency. This does not limit the matters the Minister may consider.

- (6) A provision specified in the notice does not apply in relation to the specified person or action on or after the day specified in the notice. The Minister must not specify a day earlier than the day the notice is made.
- (7) Within 10 business days after making the notice, the Minister must:
  - (a) publish a copy of the notice and his or her reasons for granting the exemption in accordance with the regulations; and
  - (b) give a copy of the notice to the person specified in the notice.

## **Background**

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1. On 4 October 2017, I received an application from the NSW Minister for Primary Industries, Minister for Regional Water and Minister for Trade and Industry, the Hon Niall Blair MLC, on behalf of the NSW Government to seek an exemption under section 158 of the EPBC Act to allow further north coast shark mesh net trials (further trials) during the period of 1 November 2017 to 31 October 2019 inclusive.
2. The NSW Government has specified that further trials would be undertaken in accordance with the Operational Requirements attached to its application letter, which will be reflected in any approved management plans for the trials required under schedule 6D of the *Fisheries Management Act 1994* (NSW).
3. The north coast meshing trials are a component of the NSW Shark Management Strategy, a \$16 million research program funded by the NSW Government to trial emerging technologies and integrated shark mitigation measures over 5 years, initiated in October 2015. Components of the strategy include: aerial surveillance, shark barrier trials, VR4G listening stations, shark tagging, drone (UAV) trials, SMART (Shark Management Alert in Real Time) drumline trials, Clever Buoy trials, and the north coast meshing trial.
4. The first meshing trial was conducted between 8 December 2016 and 30 May 2017, and was also subject to a national interest exemption that I granted on 16 November 2016, effective for 12 months. My statement of reasons for that decision is available on the Department of the Environment and Energy public notices website (<http://epbcnotices.environment.gov.au/>).
5. The NSW Department of Primary Industries (DPI) published its analysis of the first meshing trial in a report titled Fisheries Final Report Series | NO 154 NSW North Coast Shark-Meshing Trial Final Report (the final report on the first trial). This report is publicly available at <http://www.dpi.nsw.gov.au/fishing/sharks/management/shark-net-trial>.
6. The Operational Requirements proposed by the NSW Government attached to Minister Blair's exemption application dated 4 October 2017, set the parameters for conducting further trials, including:
  - a. The area of the trials is limited to coastal beaches and other tidal waters on the NSW north coast within the boundaries of Richmond Valley Council and Ballina Shire Council Local Government Areas.

- b. The time period in which to conduct trials is limited to 24 months from 1 November 2017 to 31 October 2019 inclusive.
- c. Trials are limited to the use of up to ten nets in the trial area at any one time.
- d. The nets used in the trials will be anchored, semi-pelagic synthetic filament mesh nets, up to 150 m in length, with mesh size between 60 to 90 cm.
- e. The nets will be set in a generally parallel direction off the beach, or other tidal waters, about 500 m off the shore, with a weighted bottom line (leadline and a floated top line (floatline).
- f. Monitoring and reporting and environment and social risk mitigation measures must be implemented.

## **Evidence**

7. The evidence or other material on which my findings were based was a brief from my department dated 25 October 2017 (the **Departmental brief**). That brief attached the application from the New South Wales Government with the Operational Requirements for the action, the final report on the first trial, a factsheet on travel to NSW north coast region, an extract of EPBC Act s 158 legislation, and the *Marine bioregional plan for the Temperate East Marine Region*.

## **Findings**

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### *Whether the application received was a valid application under s 158*

8. Under section 158(1) of the EPBC Act, a person proposing to take a controlled action may apply to me in writing for an exemption from a specified provision of Part 3 or of Chapter 4.
9. I therefore considered that in order to be a valid application under s 158, the application received from the Hon Niall Blair MLC must be:
  - a. in writing;
  - b. identify the specific person to whom the exemption would apply;
  - c. identify the specific Part 3 or Chapter 4 provisions of the EPBC Act for which the exemption is sought; and
  - d. identify the proposed action in sufficient detail to enable me to decide whether to grant an exemption.
10. The application received from the Hon Niall Blair MLC on behalf of the NSW Government:
  - a. was in writing,
  - b. identified the specific person to whom the exemption would apply as the State of NSW or persons acting on behalf of the State of NSW,

- c. identified the specific provisions of Part 3 or Chapter 4 of the EPBC Act from which the exemption was sought, being sections 18, 18A, 20, 20A, 23 and 24A of Part 3 and Parts 7-9 of Chapter 4; and
  - d. identified the proposed action in sufficient detail to enable me to decide whether to grant an exemption.
11. Based on this information, I was satisfied that the application was a valid application under section 158 of the EPBC Act.

*National Interest considerations*

12. Under section 158(4), I may only grant the requested exemption if I am satisfied that it is in the national interest to do so.
13. Section 158(5) states that in determining the national interest, I may consider Australia's defence or security or a national emergency. However, section 158(5) also states that the section does not limit the matters that I may consider in determining the national interest.
14. I considered the information in the Departmental brief that the expression 'national interest' is different from, and narrower than, 'public interest'. While the term 'public interest' can embrace, among other matters, local, regional and municipal concerns, the expression 'national' directs attention to the interests of Australia as a whole as distinct from local or regional interests within Australia. To be in the national interest, something needs to be on behalf of or advantageous to the nation as an organised whole, rather than that of a particular group or section of the country.
15. I also noted the information in the Departmental brief that activities that would only be carried out in one state would not prevent a request for exemption from being in the national interest if the exemption would be beneficial to the nation as a whole. In particular, if the impact of a decision on a specific section of the community had the potential to create an outcome which was of significance to the nation as a whole, then it could be in the national interest.
16. I noted that the test in section 158 is not that the proposed action itself is in the national interest, but rather that I must be satisfied that exempting the action from the specified provisions of the EPBC Act is in the national interest. Given the specified provisions that are the subject of this application, I considered that, in order to grant the exemption, I must be satisfied that it is in the national interest that the proposed action not be required to be assessed and approved under the EPBC Act.
17. In deciding whether I was satisfied of this, I considered the information in the Departmental brief, including all attachments.
18. Based on this information, I decided that 6 matters in particular were relevant to my decision. These were:
- a. scientific considerations – particularly the influence of the NSW Shark Management Strategy on national shark mitigation approaches;
  - b. likely impacts on the national economy;

- c. public safety considerations;
- d. critical timeframes for implementing the action and whether NSW should have been expected to refer the action;
- e. potential impacts of the action on matters protected by a provision of Part 3 (matters of national environmental significance) including mitigation measures proposed by NSW;
- f. other regulatory matters, including the Marine Bioregional Plan for the Temperate East Marine Region.

19. My findings in relation to these matters are set out below in detail.

*Influence of the NSW Shark Management Strategy on national shark mitigation approaches*

- 20. I noted that the NSW Government's broad objectives in relation to shark management trials are to reduce the risk to swimmers posed by sharks, to minimise the impact of shark management measures on fauna, and to inform future decision making about shark management, as set out in Schedule 6D to the *Fisheries Management Act 1994* (NSW).
- 21. I noted that mesh nets are passive fishing gear designed to catch large sharks by entangling them. While it is not possible to configure mesh nets to catch only target sharks, it might be possible to implement modifications that improve selectivity and reduce bycatch. I considered that as a result of the first meshing trial, the NSW Government has identified a number of operational and technical modifications that may assist in reducing bycatch and collateral mortality of bycatch, such as larger mesh sizes and stronger mesh materials, alternative depths at which nets are set in the water column, and frequency of net checks.
- 22. I noted the information in the Departmental brief that the NSW Government intends to scientifically test these modifications during further meshing trials, and that the research outcomes can inform the design and use of mesh nets in NSW and Queensland, and in other states where mesh nets may be considered, such as Western Australia.
- 23. I noted that the Commonwealth Scientific and Industrial Research Organisation (CSIRO) is also working with the NSW Government to incorporate biological information about white sharks obtained in the trial into population models, which will ultimately better inform the design and use of shark management measures.
- 24. From information in the application letter I received, I considered that the NSW Government's action can have broader jurisdictional application to inform the design and use of shark management measures in other states, and to inform the public of established and new technologies for shark mitigation nation-wide.
- 25. I noted that up to 30 SMART drumlines will be tested at the same beach locations as the mesh nets during the action and that, consistent with the first meshing trial, the research objective is to assess the catch of target sharks and bycatch of the nets against SMART drumlines used in the area of the trial, and that the use of SMART drumlines under the NSW Shark Management Strategy is the first time the technology has been

tested in Australian waters. While SMART drumlines will be deployed in the trial area, they are not part of the specified action for the purposes of the exemption request, as they are considered unlikely to have a significant impact on matters of national environmental significance and have not required referral and approval under the EPBC Act.

26. As advised by the NSW Government in its application letter, I noted that results from the first meshing trial comparing mesh nets to SMART drumlines indicate that SMART drumlines are significantly more effective at catching target sharks and minimising bycatch impacts than mesh nets, and further trials are needed to demonstrate whether this was an unusual result or a continuing trend. I noted from the final trial report that:
  - a. SMART drumlines caught 36 target sharks. Target sharks were 92 per cent of the total catch, with 97 per cent survival of all animals caught.
  - b. Nets caught 9 target sharks. Target sharks were 3 per cent of the total catch, with 47 per cent survival of all animals caught.
27. I noted that SMART drumlines are designed to be non-lethal, as opposed to traditional drumlines without the SMART technology. SMART drumlines comprise of an anchor and rope, two buoys, and a satellite-linked communications unit, attached to a trace and baited hook. When a shark is hooked, the pressure on the line triggers the communications unit, which alerts DPI, and/or its contractors, to respond and manage the animal.
28. I considered advice from the NSW Government in its application letter that the Queensland and Western Australian Governments have shown interest in the findings of the first meshing trials to inform their own measures. The Departmental brief also noted:
  - a. The Queensland shark control program has used traditional drumlines and mesh nets since 1962, and all target sharks caught are euthanised.
  - b. In Western Australia, traditional drumlines were trialled from January to April 2014, but nets and drumlines are not part of its current shark hazard mitigation strategy.
29. I noted the information in the Departmental brief that threats from human-shark interactions occur in all Australian coastal waters, particularly during the summer tourist season. The further trials proposed by the NSW Government will provide new data regarding the relative efficacy of different shark deterrent measures. This new data will also improve the information available for national decision making regarding shark control measures.
30. I agreed with my Department's view that subjecting the proposed action to EPBC Act assessment and approval requirements would delay the provision of new data regarding the relative efficacy of the different shark deterrent measures and prevent other jurisdictions from using this data when required to make decisions about shark control measures. This could endanger beachgoers, particularly in the summer tourist

season, as government decision-makers would not be using the most optimal and up to date data when making shark control decisions.

31. On this basis, I considered that the scientific considerations described above, particularly in relation to the need for optimal and up to date data to inform nationwide government-decision making on shark control measures, supported the position that it was in the national interest to exempt the proposed action from the specified provisions of the EPBC Act.

*Likely impacts on the national economy*

32. In its application letter the NSW Government notes the substantial public concern about the threat of shark-human interactions at Australian beaches, including the intense media interest regionally and nationally on north coast shark interactions since early 2015. I noted that public concern and media interest has led to the NSW Government focusing much of its shark mitigation strategy on the north coast in response to the string of shark interactions in the area. I also noted that justification for trialling nets in addition to emerging technologies reflected their considered effectiveness in the existing 'bather protection program' and elsewhere.
33. Under the existing NSW Shark Meshing (Bather Protection) Program, the NSW Government currently deploys nets at 51 ocean beaches from Newcastle to Wollongong between 1 September and 30 April each year. This program began at Sydney beaches in 1937, followed by Hunter and Illawarra in 1949, and Central Coast in 1987.
34. The Departmental brief, and in particular, the application letter from the NSW Government, noted that the ongoing risk of shark interactions on the NSW north coast is of national economic interest as the area is a major national and international recreation and tourism destination, and a gateway to the Gold Coast, Queensland and other regional locations:
- a. A primary driver of recreation and tourism in this region is beach and ocean related activities. The local tourism industry is also important to local communities as it supports approximately one in three jobs in the region.
  - b. The local tourism industry is itself of national interest because the NSW north coast makes a significant contribution to the national economy attracting over 20 million domestic overnight visitors and 3.5 million international overnight visitors for the period of April 2016 to March 2017. More than 53 per cent of domestic visitors and 82 per cent of international visitors are holiday makers. International and domestic visitors to the north coast spent \$3.5 billion in the year ending March 2017.
  - c. Shark interactions have media notoriety, being represented regionally, nationally and internationally. This media representation can have an impact on Australia's reputation as an international tourism destination with commensurate flow-on implications for the national economy.
35. I noted the information in the Departmental brief that, prior to the first meshing trial, fear of shark interactions was seen to cause a decline in beach use, with flow-on

impacts to the community and the economy, leading to a strong mandate for the trial, as detailed by the NSW Government at the time. I noted that to monitor the level of community acceptance to the nets, the NSW Government has conducted two community surveys; pre-trial in October-November 2016 and during the last month of the trial in May 2017.

36. The results of these surveys showed that prior to the first trial there was majority support among local residents for the mesh nets, particularly among surfers, based on sentiments gathered from the community surveys that: *the nets would make them feel safer, nets were important for the local economy, and something needs to be done to address human-shark interactions*. From the final trial report I noted that negativity towards the nets from local residents increased following the first meshing trial, primarily in response to bycatch (and mortality), and the majority of local residents and non-residents considered that the bycatch was unacceptable.
37. Based on the analysis of community survey results, the final report on the first trial makes three recommendations in relation to community acceptance of established and emerging technologies that will be implemented through further trials:
  - a. Undertake research to design a net that reduces bycatch.
  - b. Undertake social research focusing on surfers to identify the protective measures that would improve their feelings of safety regarding sharks.
  - c. Continue trials of new technologies to minimise human-shark interactions that provide an equivalent protective approach as nets over the same or greater spatial and temporal scales as the trial, with associated community consultation.
38. I noted the information in the Departmental brief that future community surveys and analysis will continue to explore the changes and trends in public attitudes towards shark mitigation measures over time in response to the results of further meshing trials and SMART drumline trials. I also noted that public perception is a key factor that informs decision-making about shark mitigation measures, and subsequently confidence in beach and ocean use. Based on this information, I agreed with the Department's view that while providing nationally important scientific data about the relative efficacy of different shark mitigation measures, the trials will also influence public understanding of the data, which will be necessary to support implementation of the most effective measures nationally.
39. I noted that the Department's view is that the evidence of:
  - a. a substantial public fear of shark interactions in recent years;
  - b. the media notoriety of attacks (including nationally and internationally); and
  - c. the established links between public perception, decision-making about shark mitigation measures and tourism,

means that there is currently a risk that Australia's national economy, dependent as it is on tourism, will be adversely affected if improved data on shark control measures is not obtained as soon as possible, so as to better inform government decision-making.



40. I agreed with this view.

41. Further, and as discussed above, I agreed with my Department's view that subjecting the action to EPBC Act assessment and approval processes would result in a delay in obtaining this data. I considered that such a delay is likely to hurt Australia's national economy.

42. On this basis, I considered that the arguments described above in relation to the likely impacts on the national economy supported the position that it is in the national interest to exempt the proposed action from the specified provisions of the EPBC Act.

#### *Public safety*

43. I noted the information in the Departmental brief, particularly the application, that the NSW Government considers there is a continuing risk to beachgoers from human-shark interactions on the north coast, and further trials of mesh nets are required in the same locations as the first trial (beaches in the Ballina Shire and Richmond Valley Council Local Government Areas).

44. I further noted that the NSW Government identifies three 'target sharks' species for the purposes of the trials, the White Shark (*Carcharodon carcharias*), Tiger Shark (*Galeocerdo cuvier*) and Bull Shark (*Carcharhinus leucas*). I considered the following statistics provided by the NSW Government in its application letter to highlight the ongoing risk posed by target sharks on the north coast:

- a. Data from the use of SMART drumlines over the past 9 months (December 2016 to August 2017) show a total of 94 target sharks (88 white, 3 tiger, 3 bull) have been intercepted just beyond the surf break in the trial area.
- b. Since 1 January 2014, there have been 32 human-shark interactions in NSW waters, with three resulting in fatalities. Of the 32 human-shark interactions, 15 occurred on the north coast, including the most recent fatality on 9 February 2015 at Ballina.
- c. The most recent interaction was on 16 September 2017 at Iluka on the north coast (outside the specified trial area), between a surfer and a white shark resulting in a minor injury to the surfer. Prior to the first meshing trial, there were three similar interactions on the north coast within a one month period: 26 September 2016 at Lighthouse Beach, 12 October 2016 at Sharpes Beach, 24 October 2016 at Suffolk Park, near Byron Bay.

45. I noted the NSW Government's view that the increase in human-shark interactions since 2014 poses an inherent public safety risk to beachgoers on the NSW North Coast, which includes a large number of both national and international tourists. I further noted that the Department considers that if the proposed action were required to be assessed and approved under the EPBC Act, this would likely result in no nets in the water for the upcoming summer tourist season (2017-2018) and potentially also for the following summer tourist season (2018-2019). I agreed with both of these views.

46. On the basis that the summer tourist season is when human-shark interactions are more likely to occur, I agreed with the NSW Government's view that failing to have nets in

the water at those times may increase the risk of injuries or even fatalities caused by shark attacks.

47. For these reasons, I considered that public safety factors provided further evidence in support of the position that exempting the proposed action from the specified provisions of the EPBC Act is in the national interest.

*Critical timeframe for implementation of the trials and whether NSW should have been expected to refer*

48. I noted that the NSW Government wants to commence the action on 1 November 2017 to coincide with the beginning of the peak holiday and tourism season (December through to April). The NSW Government states that the need for further trials and trial specifications were directly informed by the review results of the first meshing trial, which ended on 30 May 2017, with the analysis of the findings completed and reported on 1 September 2017. I noted the Department's view that the limited time between the completion of the analysis and release of these findings and the start of the peak holiday and tourism season means that it was not reasonable to expect NSW to have been able to refer the action with sufficient lead time to enable an adequate assessment under the EPBC Act. I agreed with this view.
49. Based on the information in the Departmental brief, particularly that public safety is of paramount importance, that the north coast region is of importance to the national economy, and that NSW requires further data on the relative effectiveness of shark mitigation measures, I agreed with the Department's conclusion that there is sufficient evidence of an urgent need for further meshing trials to commence in time for the next swimming season.
50. I noted that if the proposal was referred under the EPBC Act and determined to be a controlled action, it may be subject to an assessment and approval process before any meshing trials could commence. I agreed with the Department's view that the statutory timeframes for a decision on whether to approve the action would prohibit further trials from being conducted this summer tourist season.
51. On this basis, I considered that the evidence of an urgent need for the action to commence in time for the upcoming summer tourist season further supports the position that it is in the national interest to exempt the proposed action from the specified provisions of the EPBC Act so that the trials are able to be undertaken in the proposed timeframes.

*Potential impacts on matters of national environmental significance*

Potential impacts on listed threatened species and threatened ecological communities (sections 18 & 18A)

52. I noted from the final report on the first trial that four EPBC Act listed threatened species were impacted during the first trial:
- a. White Shark (*Carcharodon carcharias*) – vulnerable  
Three caught: one released alive, two deceased.

- b. Grey Nurse Shark (*Carcharias taurus*, east coast population) – critically endangered  
One caught, deceased.
  - c. Loggerhead Turtle (*Caretta caretta*) – endangered  
Eight caught: six released alive, two deceased.
  - d. Green Turtle (*Chelonia mydas*) – vulnerable  
Three caught, all deceased.
53. These species are also impacted by the existing NSW Shark Meshing (Bather Protection) Program and the existing Queensland Shark Control Program. The following catch numbers are available in the bather protection program annual performance reports (2016/2017 and 2015/2016) and five year review report (2016):
- a. White Shark: 22 caught in 2016/2017, 8 released alive, 14 deceased; 31 caught in 2015/2016, ten released alive, 21 deceased; 104 caught in total between 1999/2000 and 2013/2014.
  - b. Grey Nurse Shark: 17 caught in 2016/2017, 11 released alive, six deceased; 19 caught in 2015/2016, 14 released alive, five deceased; 37 caught in total between 1999/2000 and 2013/2014.
  - c. Loggerhead Turtle: one caught in 2016/2017, released alive; four caught in 2015/2016, two released alive, two deceased; 47 turtles (Green, Loggerhead, and Leatherback combined) caught in total between 1999/2000 and 2013/2014.
  - d. Green Turtle: six caught in 2016/17, two released alive, four deceased; 13 caught in 2015/2016, two released alive 11 deceased; 47 turtles (Green, Loggerhead, and Leatherback combined) caught in total between 1999/2000 and 2013/2014.
54. Recovery Plans for the White Shark and the Grey Nurse Shark recognise ‘mortality related to shark control activities’ as a current principle threat to these species.
55. The provisional east coast population estimate for the white shark was 750 to 1200 adults in 2015. An updated current population estimate from CSIRO research is expected to be available in late 2017. In Australia there are two genetically distinct populations, east coast and west coast. The Departmental brief noted that White Shark catches are highly variable between years but have generally declined over the life of the bather protection program. I considered my Department’s analysis that, while the reason for catch decline is unclear, it is possible that historical meshing programs have contributed to a decrease in the size of the White Shark population and that any additional meshing effort, such as on the north coast, may increase that impact and interfere with the recovery of the species.
56. In the 1960’s, the Grey Nurse Shark was known to aggregate at 60 sites on the east coast. There are currently four confirmed sites in Qld, 13 sites in NSW and two in Commonwealth waters. All estimates put the total east coast population between 1131 and 2142 individuals, with an estimate of 1365 the most robust currently available. Habitat critical to the survival of the Grey Nurse Shark on the east coast includes the

key aggregation site identified at Julian Rocks, Byron Bay, located within 80 km to the north of the trial area. Grey Nurse Sharks migrate along the east coast, making seasonal north-south movements to aggregation sites, thought to be related to breeding. At certain times of year, it is thought that the species aggregates according to gender.

57. The Departmental brief noted that a high proportion of Grey Nurse Sharks caught in nets off central NSW are females, and the species has a relatively high catch and mortality rate in mesh nets generally. I considered my Department's analysis that, while there is insufficient data to understand the significance of these impacts, given the proximity of the north coast nets to habitat critical to the survival of the species, it is possible that the north coast meshing program could contribute to impacts that may disrupt the breeding cycle of the species, may lead to a long-term decrease in the population and may interfere with the recovery of the species.
58. The Recovery Plan for Marine Turtles in Australia recognises fisheries bycatch (including shark control programs) as a priority threat to six listed marine turtle species, including the Green and Loggerhead Turtles.
59. Loggerhead Turtles forage off all states and the Northern Territory, but are uncommon in South Australia, Victoria and Tasmania. There are two genetically distinct stocks nesting in Australia, one in Queensland (known as the south-west Pacific stock) and one in Western Australia. Those foraging in NSW originate from the south-west Pacific stock. In 2000 it was estimated that there were 500 nesting females per year in eastern Australia, down from 3500 in 1977. I considered my Department's analysis that, given the low number of Loggerhead Turtles and historical decline in population, it is possible that additional mortality in the north coast nets will contribute to impacts that may lead to a long-term decrease in the size of a population and interfere with the recovery of the species.
60. Green turtles are found in all Australian waters, predominately off Northern Territory, Queensland and Western Australia. The total Australian population is estimated to be more than 70 000 individuals. There are nine genetically distinct stocks nesting in Australia defined by regional breeding aggregations, the closest one to the trial area being the southern Great Barrier Reef stock. I considered my Department's analysis that, given the generally high mortality rates of Green Turtles in nets, it is possible that the north coast meshing program will contribute to impacts that interfere with the recovery of the species.
61. I noted my Department's view that the impacts discussed above in relation to the White Shark, Grey Nurse Shark, Loggerhead Turtle and Green Turtle are potentially significant, however there is insufficient information available at this stage to determine whether the north coast meshing program is likely to have a significant impact on these species or any other listed threatened species.
62. Based on species distributions and previous known interactions with nets, other listed threatened species that may be impacted include: Humpback Whale, Leatherback Turtle, Hawksbill Turtle, Olive Ridley Turtle, Flatback Turtle, and Black Rockcod.

Potential impacts on listed migratory species (sections 20 & 20A)

63. I noted from the final report on the first trial that five EPBC Act listed migratory species were impacted during the first trial:

- a. White Shark (*Carcharodon carcharias*) – vulnerable  
Three caught: one released alive, two deceased.
- b. Loggerhead Turtle (*Caretta caretta*) – endangered  
Eight caught: six released alive, two deceased.
- c. Green Turtle (*Chelonia mydas*) – vulnerable  
Three caught, all deceased.
- d. Reef Manta Ray (*Manta alfredi*)  
One caught, plus two unidentified manta rays, all released alive.
- e. Pygmy Devilray (*Mobula eregoodootenkee*)  
Sixty-three caught: 18 released alive, 45 deceased.

64. These species are also impacted by the existing NSW Shark Meshing (Bather Protection) Program and the existing Queensland Shark Control Program. Impacts on the White Shark, Loggerhead Turtle and Green Turtle are discussed above under threatened species. Manta Rays and Devilrays are not typically caught in the bather program, but more often in the Queensland program. Catch data is available online:

- a. Manta Rays (not identified to species level): four caught in 2015, three released alive, one deceased.
- b. Devilrays (not identified to species level): four caught in 2016, all released alive; one caught in 2015, deceased.

65. Reef Manta Ray subpopulations are small, highly fragmented and sparsely distributed. There are several known aggregation sites in eastern Australia, including Byron Bay, within 60 km of the trial area, and several Queensland locations. Individuals migrate seasonally between aggregation sites and make daily migrations of up to 70 km but do not commonly venture from coastal waters. The Departmental brief notes that the Byron Bay aggregation site, being the southern-most aggregation site, is likely to provide important habitat for the species, and, although population numbers are unknown, may support an ecologically significant proportion of the population. I considered my Department's analysis that it is therefore possible that the north coast meshing program will contribute to impacts that may seriously disrupt the lifecycle of a population of the species.

66. Pygmy Devilray population numbers are also unknown but it is thought to be fairly common within Queensland waters. There is little information on the ecology of this species. The Departmental brief notes that its biological and behavioural characteristics (i.e. low reproductive rate, late maturity and aggregating behaviour) make it particularly vulnerable to over-exploitation in fisheries and slow to recover from depletion. I considered my Department's analysis that, although there is insufficient data to understand the significance of these impacts, given the high catch and mortality rates in the first north coast meshing trial, it is possible that further meshing programs on the north coast may seriously disrupt the lifecycle of a population of the species.

67. I noted my Department's view that the impacts discussed above in relation to Reef Manta Ray and Pygmy Devilray are potentially significant, however there is insufficient information available at this stage to determine whether the north coast meshing program is likely to have a significant impact on these species or any other listed migratory species.
68. Based on species distribution and previous known interactions with nets, other EPBC Act listed migratory species that may be impacted include: Humpback Whale, Killer Whale, Indo-Pacific Humpback Dolphin, Dugong, Leatherback Turtle, Hawksbill Turtle, Olive Ridley Turtle, Flatback Turtle, Silky Shark, Shortfin Mako, Longfin Mako, Giant Manta Ray, Japanese Devilray and Bentfin Devilray.

Potential impacts on the Commonwealth marine environment (sections 23 & 24A)

69. I noted that the trial area is adjacent to the Temperate East Marine Region, which covers Commonwealth waters extending from the southern boundary of the Great Barrier Reef Marine Park to Bermagui in southern NSW. The *Marine Bioregional Plan for the Temperate East Marine Region* has been prepared under section 176 of the EPBC Act. The plan identifies marine protected species as conservation values in the region, that is, species listed under Part 13 of the EPBC Act that live in the Commonwealth marine area for all or part of their life cycle.
70. A pressure analysis undertaken for the plan identifies and categorises human-driven processes and events that detrimentally affect the region's conservation values. The analysis refers to the connectivity between pressures and ecological processes in state and Commonwealth waters. Bycatch, specifically in bather protection schemes, is assessed in the pressures analysis as *of concern* to conservation values for the Indo-pacific Bottle-nose dolphin (four caught during the trial) and the Indo-pacific Humpback Dolphin, and *of potential concern* for the Humpback Whale.
71. The Departmental brief noted that all four Indo-Pacific Bottle-nose Dolphins caught during the trial were deceased, and another four were caught in the bather protection program nets in 2016/2017, two released alive and two dead. Overall, available abundance estimates indicate that the species occurs in small populations averaging 54-89 individuals, and the total number of mature individuals across its range is unlikely to exceed 10 000 individuals.

Mitigation measures

72. The first trial allowed for the deployment of up to ten nets, however only five were used. The nets were deployed at the five beaches initially identified by the community (Lighthouse, Sharpes, Shelly, Lennox Head, and Evans Head). Further trials are limited to the use of up to ten nets, at coastal beaches and other tidal waters within the boundaries of Richmond Valley and Ballina Shire Local Government Areas, within the time period from 1 November 2017 to 31 October 2019.
73. The NSW Government will implement further trials in accordance with a Management Plan that will be prepared and approved under state legislation before the commencement of each trial. To describe the specifications of further trials for the purposes of the exemption the NSW Government has provided operational

requirements that will be reflected in all management plans implemented during the 24 month period.

74. I considered that the Operational Requirements include measures that were successfully implemented during the first trial and were considered effective in minimising impacts on protected matters, particularly:
- a. All nets will be fitted with acoustic warning devices (dolphin pingers and whale alarms) to minimise potential entanglement of dolphins and whales.
  - b. The NSW DPI will avoid the deployment of mesh nets during the peak whale migration, unless a shark-human interaction occurs in the trial area during this migration period.
  - c. All live fauna caught in the nets will be identified and released with the least possible harm. The Fauna Disentanglement Plan, developed for the first trial to facilitate the release of live animals, will be reviewed and updated for each subsequent trial.
75. I noted that the review of the first trial made a recommendation to assess key operational and novel technical modifications to nets to reduce the collateral mortality of bycatch while maintaining their long-term efficiency as a tool for minimising human-shark interactions. The operational requirements specify the modifications that the NSW Government has prioritised for testing, which will be adaptively implemented and reviewed in further trials.
- a. Larger mesh sizes and stronger twine to reduce catch of smaller non-target animals.
  - b. Changes to vertical fishing height (depth of nets in the water column) to increase survival of air-breathing fauna (turtle and dolphins).
  - c. Alternative spatial deployment, such as moving the Evans Head net away from the river mouth to avoid concentrations of non-target animals.
76. I noted that the final trial report recommends changes to the inspection frequency to reduce catches of non-target species. While the management plan for the first trial required that nets needed to be checked no earlier than 4 hours and within 24 hours of the previous inspection, only 64 per cent of net checks occurred within that timeframe, due to poor weather and sea conditions. The review found that the relationship between inspection and survival of bycatch was similar between 12 hours and 24-48 hours, and survival dropped appreciably as inspection extended beyond 3-4 days. Accordingly, the operational requirements specify that nets must be checked no less than 12 hours and no later than 52 hours from the previous inspection, allowing for nets to be inspected within 12 hours if a live animal is observed in the nets, and for the inspection frequency to be re-evaluated and adjusted where necessary at the end of each trial.
77. I noted that, as for the first trial, the NSW Government will continue to record data on catches of fauna during every net inspection, to report the provisional data at least monthly on the DPI website and to publish an analysis of the full set of trial results, its

outcomes and any recommendations in a final report within four months of the end of each trial.

*Other regulatory matters*

78. Under section 176(5) of the EPBC Act I must have regard to a bioregional plan in making any decision under the Act to which the plan is relevant.
79. In making my decision whether to exempt the proposed action from the specified provisions of the EPBC Act, I had regard to the *Marine Bioregional Plan for the Temperate East Marine Region*, which I considered relevant to my decision. Specifically, my analysis in relation to this bioregional plan is set out above at paragraphs 69-71.

**Conclusion**

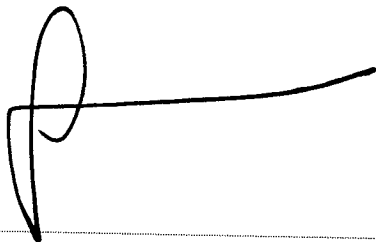
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80. In conclusion, based on:

- a) considering the scientific, social and economic interests in not requiring the proposed action to be assessed and approved under the EPBC Act, and
- b) considering the potential impacts of the action on listed threatened species, listed migratory species and the Commonwealth marine environment, and noting the parameters and mitigation measures built into the trials, and
- c) noting the critical timeframe for implementation of the proposed action, and
- d) having regard to the *Marine Bioregional Plan for the Temperate East Marine Region*,

I was satisfied that it was in the national interest that sections 18, 18A, 20, 20A, 23 and 24A of Part 3 and Parts 7-9 of Chapter 4 of the EPBC Act not apply to the NSW Government, or persons acting on behalf of the NSW Government, in relation to the action.

81. Accordingly, I decided under section 158 of the EPBC Act, to grant an exemption to the State of New South Wales, and those acting on behalf of the State of New South Wales, from the specified provisions in relation to the proposed action.



**Minister for the Environment and Energy**

26 October 2017