



## Submission on Grey Nurse Shark protection and recovery in NSW

26 August 2011

### The EDO NSW Mission Statement:

To empower the community to protect the environment through law, recognising:

- the importance of public participation in environmental decision making in achieving environmental protection
- the importance of fostering close links with the community
- the fundamental role of early engagement in achieving good environmental outcomes
- the importance of indigenous involvement in protection of the environment
- the importance of providing equitable access to EDO services around NSW

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## Overview

The Environmental Defender's Office NSW (**EDO**) is pleased to provide the following comments in regard to the Department of Primary Industries (**DPI**) Discussion Paper for Grey Nurse Shark Protection (**Discussion Paper**).<sup>1</sup>

The EDO is a community legal centre specialising in public interest environmental law and policy. Through its litigation and policy and law reform work, the EDO has had a long association with endeavours to protect the Grey Nurse Shark and its aggregation areas. It is hoped the DPI's current review process on "future management arrangements for the protection and recovery of grey nurse sharks" provides an opportunity to put in place comprehensive, science-based management strategies to better protect this rapidly declining population.

The EDO has focussed its recommendations on the following key areas:

### **a) Creation of Appropriate Protected Areas**

The creation of protection areas within a 1.5km radius of aggregation sites must be part of any Grey Nurse Shark management strategy.

### **b) Elevated Protection Status to all Critical Habitat Areas**

The zones around the critical habitat sites should be upgraded from multiple use sites to a classification analogous to a sanctuary zone within a marine park ('no-take' zones).

### **c) Reinstatement of Fishing Closures at Key Aggregation Areas (and draft Recovery Plan)**

Recreational and commercial fishing closures implemented at South West Rocks and as part of changes to the Solitary Islands and Jervis Bay Marine Parks should immediately be reinstated; with 1.5km closures being introduced at all other identified Grey Nurse Shark aggregation areas.

The draft recovery plan for Grey Nurse Sharks (2002) should also be updated and implemented.

### **d) Improved Monitoring and Enforcement Provisions**

If more restrictive fishing practices are to be effective, there also needs to be an increase in the monitoring and compliance activities within Grey Nurse Shark aggregation areas.

### **e) Social and Economic Considerations and Ecologically Sustainable Development**

The EDO believes the weight of these factors point to the significant immediate and long-term benefits of reinstating and increasing protections for the Grey Nurse Shark in line with the recommendations in this submission.

## Background

### Legislation

The *Fisheries Management Act 1994* (NSW) provides the legislative basis for management measures relating to Grey Nurse Sharks. As the objects of that Act make clear, the promotion of viable commercial fishing, aquaculture and recreational fishing – along with other social, economic and cultural benefits – is to occur within an overarching framework of conservation and ecologically sustainable development (**ESD**). The Act states:

*(1) The objects of this Act are to conserve, develop and share the fishery resources of the State for the benefit of present and future generations.*

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<sup>1</sup> Available at <http://www.dpi.nsw.gov.au/fisheries/species-protection/conservation/what-current/critically/grey-nurse-shark/gns-review>, accessed 5/8/2011.

- (2) *In particular, the objects of this Act include:*
- (a) *to conserve fish stocks and key fish habitats, and*
  - (b) *to conserve threatened species, populations and ecological communities of fish and marine vegetation, and*
  - (c) *to promote ecologically sustainable development, including the conservation of biological diversity, and, consistently with those objects:*
    - (d) *to promote viable commercial fishing and aquaculture industries, and*
    - (e) *to promote quality recreational fishing opportunities, and*
    - (f) *to appropriately share fisheries resources between the users of those resources, and*
    - (g) *to provide social and economic benefits for the wider community of New South Wales, and*
    - (h) *to recognise the spiritual, social and customary significance to Aboriginal persons of fisheries resources and to protect, and promote the continuation of, Aboriginal cultural fishing.*<sup>2</sup>

As the Discussion Paper notes, the need to protect the Grey Nurse Shark has been long recognised in law. However, over the last three decades, the Shark's protected status has been paralleled by its decline. Since its first listing as a protected fish in NSW in 1984, the species has been elevated to 'vulnerable' under the *Fisheries Management Act* in 1999; to 'endangered' in 2000; and to 'critically endangered' in 2008.<sup>3</sup>

Offences under the *Fisheries Management Act* demonstrate the seriousness with which Parliament views the decline of threatened species. In particular, harming a threatened species, population or ecological community (or interfering with them, damaging habitat, etc) is punishable by a fine of up to 2000 penalty units (\$220,000), two years' imprisonment or both.<sup>4</sup> Parliament has also made it an offence to interfere with threatened species of fish – punishable by a fine of up to 1000 penalty units (\$110,000), two years' imprisonment or both. Despite this recognition, the Grey Nurse Shark's decline demonstrates that such offences must be supplemented by robust, science-driven management actions.

### DPI Discussion Paper

We understand the current consultation has not put forward specific legislative or policy proposals for increased protection and recovery. However, a brief Discussion Paper has been prepared "to form the basis for community consultation on the future of grey nurse shark protection arrangement in NSW."<sup>5</sup>

Some key points in the paper are as follows –

- Grey Nurse Sharks are a 'critically endangered' species under the Commonwealth *Environment Protection and Biodiversity Conservation Act (EPBC Act)* as well as the NSW *Fisheries Management Act*.
- The current population size is estimated to be 1000-1500 individuals, yet a population size of 5000 individuals is considered necessary for the long term survival of this population.
- In 2002, critical habitat for the Grey Nurse Shark was declared at 10 sites along the NSW coast, and special fishing and diving rules were introduced.
- In 2010, the former NSW Government reviewed fishing arrangements at a few key areas in response to scientific concerns. In January and March 2011, new rules were implemented at Fish Rock/Green Island, North/South Solitary Islands, and in Jervis Bay Marine Park.
- Three months later the current NSW Government revoked the closures, and committed to three months of further consultation.

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<sup>2</sup> *Fisheries Management Act 1994* (NSW), s 3 (emphasis added).

<sup>3</sup> Pg 2 of the Discussion Paper. The Fisheries Scientific Committee is responsible for listing under the *FM Act* (s 220G). The Grey Nurse Shark is also listed as 'critically endangered' on Australia's east coast on the IUCN Red List of Threatened Species. See: <http://www.iucnredlist.org/apps/redlist/details/44070/0>.

<sup>4</sup> See *Fisheries Management Act 1994* (NSW), Part 7A (Threatened species conservation), Division 4 (Offences). Various defences apply.

<sup>5</sup> Pg 3 of the Discussion Paper.

- “[R]ecreational hook and line fishing with bait is still allowed at some of the largest and most significant grey nurse shark aggregation sites in NSW.”<sup>6</sup>

The Discussion Paper also provides a good summary of the primary threats that exist for Grey Nurse Shark populations, including loss of critical habitat, fishing and scuba diving. The paper seeks views on “future management arrangements for the protection and recovery of grey nurse sharks” and on “the social and economic costs associated with different management options.” (p 7)

Before detailing the recommendations noted above, this submission provides a brief overview of a case that the EDO was involved in concerning the protection of Grey Nurse Sharks in NSW. This case highlighted the key threats facing the Shark, and summarised scientific opinion on the most appropriate ways to address these threats.

### ***Nature Conservation Council of NSW Inc v Minister for Environment and Water Resources & Ors***<sup>7</sup> (OTLF Case)

In 2007, the EDO represented the NSW Nature Conservation Council (NCC) in proceedings in the Administrative Appeals Tribunal (**Tribunal**) against the Commonwealth Minister for Environment and Heritage (**Federal Minister**). In that case the EDO sought merits review of the Federal Minister’s decision that the NSW Ocean Trap and Line Fishery (**OTL Fishery**) was not having a significant impact on the nationally listed endangered east coast population of the Grey Nurse Shark.

The EDO presented evidence to the Tribunal that the OTL Fishery would have a significant impact on the species and that in declaring the OTL Fishery an approved Wildlife Trade Operation, the Federal Minister did not take into account the precautionary principle<sup>8</sup> (which he was required to do under the EPBC Act). The Tribunal found that:

“It is true that, on the evidence, deaths caused by the OTLF will also have an adverse impact on the sharks. However, this adverse impact will not add to the detriment which will continue whatever action we take.”<sup>9</sup>

Importantly, the Tribunal further noted:

“We are, however, in no doubt that if grey nurse sharks are to survive off the east coast of Australia, further urgent steps need to be taken. Nothing in our decision suggests that this is not so. It is just that this Tribunal is not the body to carry out the task.”

The NCC was ultimately unsuccessful in its merits review case. Noting this result, the EDO believes there is still a long way to go to develop appropriate management options for Grey Nurse Sharks. Whilst this submission will not go into further detail of the proceedings, we believe that the evidence gathered from experts involved in that case may assist the DPI in developing Grey Nurse Shark rehabilitation strategies. This evidence is drawn upon below.

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<sup>6</sup> Pg 3 of the Discussion Paper.

<sup>7</sup> [2007] AATA 1876; (2007) 98ALD 334. Available at <http://www.austlii.edu.au/au/cases/cth/aat/2007/1876.html>.

<sup>8</sup> Defined in Principle 15 of the *Rio Declaration (1992)*: where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

<sup>9</sup> *Nature Conservation Council of NSW Inc v Minister for Environment and Water Resources & Ors* [2007] AATA 1876. 125..

## a) Creation of appropriate protected areas

During the *OTLF Case* on Grey Nurse Shark protection, the EDO engaged a number of experts to ascertain the most effective methods of promoting population rehabilitation for the species. The testimony of expert witness, Dr Victor Peddemors, noted that one of the most effective methods to reduce adverse impacts between fishers and sharks simply would be to ban fishing within a 50km radius of known aggregation sites. It was however noted that a sanctuary zone of that size is impossible to create off the NSW coast. Dr Peddemors therefore stated that:

“the recorded movements of grey nurse sharks made in Australian waters indicate that a minimum of a 1.5km radius around sanctuary zone is required to protect the species and to ensure its recovery.”<sup>10</sup>

**The EDO submits that the creation of protection areas within a 1.5km radius of aggregation sites be part of any Grey Nurse Shark management strategy.** Specifically these protection areas should prevent commercial and recreational fishers from operating in all waters within the sites identified as grey nurse aggregation areas (including waters below the surface of those areas), shown at **Attachment A.**<sup>11</sup>

This recommendation accords with that of an independent scientific review commissioned by the NSW Government in 2003. The Discussion Paper states: “These blanket recommendations were not implemented as a large number of sites were under review as part of the marine parks process.”

Since the release of the Discussion Paper, the EDO notes a Private Member’s Bill seeking to place a moratorium on new marine parks for up to five years, which the NSW Government has supported (subject to the findings of a new independent scientific audit of NSW marine parks).<sup>12</sup> This development subverts a precautionary approach, risking marine biodiversity for present and future generations of beneficiaries – including divers, fishers, tourists and the broader Australian community.

## b) Elevated Protection Status to all Critical Habitat Areas

As noted above, in 2002 a series of critical habitats were declared around a number of Grey Nurse Shark aggregation areas along the NSW coast. Critical habitats are “areas of land that are crucial to the survival of particular threatened species, populations and ecological communities.”<sup>13</sup> These critical habitat areas set out a series of special fishing and diving rules. The EDO submits that these protections are inadequate, for despite the Grey Nurse Shark’s critically endangered status, recreational bait fishing is still permitted in many of these areas. Furthermore, as long as the vessels from where the fishing is taking place are not anchored or moored, we understand fishing techniques that use bait and wire traces can be used directly over Grey Nurse Shark aggregations.

Expert evidence obtained in the *OTLF Case* from Peter Hitchins (who has played a key role in the DPI Grey Nurse Shark tagging program since it began in 2001) demonstrated that during his many dives with Grey Nurse Sharks (on average over 270 dives per year):

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<sup>10</sup> Victor M. Peddemors (PhD), Hon. Associate Professor in Marine Biology, Visiting Research Fellow, Graduate School of the Environment, Macquarie University, Sydney, Australia.

<sup>11</sup> AATA 1876; (2007) 98ALD 334. Available at <http://www.austlii.edu.au/au/cases/cth/aat/2007/1876.html>

<sup>12</sup> At the time of writing, the NSW Legislative Council had passed the Marine Parks Amendment (Moratorium) Bill, which was awaiting passage in the Legislative Assembly. See <http://www.parliament.nsw.gov.au/prod/parlment/nswbills.nsf/131a07fa4b8a041cca256e610012de17/b2301600f2f894d3ca257886002b6eca?OpenDocument>.

<sup>13</sup> Available at: <http://www.environment.nsw.gov.au/criticalhabitat/CriticalHabitatProtection.htm>.

“I continue to see stainless steel traces embedded in the mouths and gills of the grey nurse sharks in these areas. I also find wire traces snagged on the bottom within these areas.

...

“Up to a quarter of all the grey nurse sharks I observe at South West Rocks are carrying some kind of visible injuries from fishing gear. I understand DPI has conducted research to show that only 1 of 6 hooks are visible from the outside. This means the level of fishing injuries would be much higher than what I observe. Grey nurse sharks can die as the result of 1 hook and yet these statistics suggest every shark in the population has been hooked.”

...

“Fishing has been proven to be the number one factor contributing to the extinction of this species and therefore in my view should be immediately banned from all key aggregation areas out to 1500 metres.”

**The EDO therefore suggests that the zones around the critical habitat sites be upgraded from multiple use sites to a classification more analogous to a sanctuary zone within a marine park.** This would essentially enforce ‘no-take’ zones in these aggregation areas, where both recreational and commercial fishing is not permitted. Such action was recommended by a 2003 CSIRO report.<sup>14</sup>

### **c) Reinstatement of Fishing Closures at Key Aggregation Sites (and draft Recovery Plan)**

The DPI Discussion Paper clearly states that “hook and line fishing has been identified as the major threat to the species survival and is the largest source of grey nurse shark mortality”. Furthermore, the NSW Fisheries Scientific Committee listed “Hook and line fishing in areas important for the survival of threatened fish species” as a Key Threatening Process affecting Grey Nurse Sharks in 2002.

The revocation of the recreational fishing closures at Fish Rock and Green Island by the NSW Minister for Primary Industries in April 2011 runs counter to these developments, and is arguably contrary to the objects of the *Fisheries Management Act*.

We note that in the *OTLF Case*, the Tribunal reached its decision partly on the basis of the Federal Minister’s conditions and the DPI’s proposals for management of Grey Nurse Sharks. This required the development and implementation of fishery closures of appropriate areas for Grey Nurse Sharks (as required under the Preferred Strategy Report<sup>15</sup>) and a targeted monitoring program to help evaluate the effectiveness of the Grey Nurse Shark fishing closures. **Attachment B** provides a list of these sites and the fishing methods the Fisheries Management Strategy was intended to address. The Tribunal acknowledged that, in the absence of this material, the Federal Minister may not have agreed to give the OTL Fishery a Wildlife Trade Operation approval under the EPBC Act.<sup>16</sup>

In assessing the above proposed conditions, the Commonwealth Department of Environment and Heritage (as it then was) noted the focus on *commercial* fishing closures, and indicated its concerns about the lack of similar regulation for *recreational fishing*, as well as the lack of completion of the NSW Grey Nurse Shark recovery plan. (This plan still remains in draft form.<sup>17</sup>) The Department stated:

“In the absence of specific measures under an implemented recovery plan, the targeted monitoring program required under Condition 6 should also take into consideration the effects

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<sup>14</sup> Stevens, J. (2003), “Review of grey nurse shark protection”, CSIRO, p 17.

<sup>15</sup> This refers to the Fisheries Management Strategy for the Ocean Trap and Line Fishery, management action 3.1(c)(iv)

<sup>16</sup> See footnote 7 above, at [50].

<sup>17</sup> See DPI website, at <http://www.dpi.nsw.gov.au/fisheries/species-protection/conservation/what/recovery/gns>.

of fishing from other sectors such as recreational fishing in evaluating the effectiveness of the proposed commercial fishing closures of key grey nurse shark sites”<sup>18</sup>.

It can be seen that there is an accepted need for appropriate fishery closures to protect the Grey Nurse Shark. Indeed, a number of additional closures have been created through the *Fisheries Management Act* (section 8) or through the creation of appropriate marine park zones in the period 2007-2010. As noted above, the objects of the *Fisheries Management Act* include the promotion of ESD principles, including the precautionary principle, and the conservation of threatened species such as the Grey Nurse Shark. Fishing is to only occur when consistent with those principles. In light of the above, it would be good environmental policy to re-establish the revoked fishing closures as a matter of urgency. Any variations to fishing closures should occur *after*, and not *before*, the review of whether protections are working.

**Accordingly, the EDO submits that recreational and commercial fishing closures implemented at South West Rocks and as part of changes to the Solitary Islands and Jervis Bay Marine Parks should immediately be reinstated, with 1.5km closures being introduced at all other identified Grey Nurse Shark aggregation areas.**

**The 2002 draft recovery plan for Grey Nurse Sharks should also be updated and implemented.**<sup>19</sup>

Another of the proposed conditions put forward by the NCC in the *OTLF Case* (developed with expert input) was in regard to the specific rigging that could be used in hook and line fisheries. This requirement stipulated if fishing was going to occur in areas where Grey Nurse Sharks are present, at the very least non-offset circle hooks (and no other type of hook) be introduced for both attended and unattended fishing techniques in all hook and line fisheries.<sup>20</sup>

#### **d) Improved Monitoring and Enforcement Provisions**

Expert evidence provided in the *OTLF Case* by Hitchens stated that:

“Policing of the critical habitat areas is almost non-existent at South West Rocks. I observe fisheries officers approximately once a year in the area.”

**If more restrictive fishing practices are to be effective, there also needs to be an increase in the monitoring and compliance activities within Grey Nurse Shark aggregation areas.** If legislative changes are proposed, they should provide compliance officers with a broad ambit of enforcement mechanisms including, but not limited to, fines, confiscation of fishing equipment and revocation of fishing licences. Overall, the gravity of offences under the *Fisheries Management Act* needs to be matched by serious enforcement.

<sup>18</sup> Assessment of the NSW Ocean Trap and Line Fishery, Department of Environment and Heritage, July 2006, p.34 - <http://www.environment.gov.au/coasts/fisheries/nsw/ocean-trap/pubs/nsw-ocean-trap-assessment.pdf> (emphasis added).

<sup>19</sup> NSW Fisheries, “Threatened Species Recovery Planning Program – Grey Nurse Shark” (2002). Available at <http://www.dpi.nsw.gov.au/fisheries/species-protection/conservation/what/recovery/gns>.

<sup>20</sup> “Circle hook” – a hook where a straight line drawn from the point of the hook and following the trajectory of the point of the hook crosses the eye or the shank of the hook.

“Non-offset circle hook” – a circle hook that when laid on a flat surface lies in the same dimensional plane, i.e. it lies flat.

“Unattended fishing techniques” – those that involve the setting of gear so that the fish hook themselves without a fisher being present.

“Attended fishing techniques” – those that involve the immediate landing of fish as they are hooked.

“Hook and line fisheries” – In the *OTLF case* the applicant (Nature Conservation Council of NSW) defined hook and line fisheries as the NSW Ocean Trap and Line Fishery and all recreational fisheries that involve the use of hooks within the area of the NSW Ocean Trap and Line Fishery.

## e) Social and Economic Considerations

The Discussion Paper seeks views on “the social and economic costs associated with different management options.” In weighing up the social and economic issues associated with the above recommendations, the EDO notes the following points:

- the critically endangered status of the Grey Nurse Shark under state and federal law, along with the World Conservation Union’s (IUCN) Red List;
- the need to protect Australia's unique and diminishing marine biodiversity (particularly from avoidable, human-induced threats) for the sustained health, benefit and wellbeing of NSW and the Australian community – including divers, fishers, tourists, consumers and others;
- the ongoing ability for recreational and commercial fishing in NSW waters, in comparison to the areas proposed for Grey Nurse Shark protection;<sup>21</sup>
- the economic benefits of a significant and ongoing diving tourism industry in these areas;<sup>22</sup>
- the long-term benefits of preserving marine biodiversity, including the Grey Nurse Shark, over the immediate and limited additional benefit of fishing in Grey Nurse Shark aggregation areas;
- the responsibility and commitment of the NSW Government to manage the environment and natural resources in line with ESD, under the *Fisheries Management Act*, the COAG-endorsed National Strategy on Ecologically Sustainable Development, and elsewhere.<sup>23</sup>

**Overall, the EDO believes the weight of these factors point to the significant immediate and long-term benefits of reinstating and increasing protections for the Grey Nurse Shark in line with the recommendations in this submission.**

We recommend the NSW Government seize this opportunity to arrest the decline of the Grey Nurse Shark, plan effectively for its recovery, and in doing so give effect to the *Fisheries Management Act*’s objects. In particular, to protect our marine resources in line with ecologically sustainable development “for the benefit of present and future generations.”

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<sup>21</sup> NSW currently has approximately 6.7% of waters in marine sanctuaries. It is understood that protecting all Grey Nurse Shark key aggregation areas would see less than 10% of state waters in marine sanctuaries. This compares with a minimum of 20% which would be needed to meet IUCN (World Conservation Union) commitments for marine protected areas. See IUCN (2003), *Worlds Parks Congress Recommendations*, p 80.

<sup>22</sup> For example, see Nature Conservation Council of NSW (2005), “Economic Justification for Establishing Marine Sanctuaries for Grey Nurse Sharks in NSW: Addressing Challenges and Defining Workable Solutions”, p 42.

<sup>23</sup> See, eg, *Fisheries Management Act 1994 (NSW)*, s 4. See also *National Strategy on Ecologically Sustainable Development* (endorsed by COAG, 1992), available via <http://www.environment.gov.au/about/esd/index.html>. See, in particular, the central objectives under Nature Conservation System (Part 3, at 10.1): “to establish across the nation a comprehensive system of protected areas which includes representative samples of all major ecosystems, both terrestrial and marine; manage the overall impacts of human use on protected areas; and restore habitats and ameliorate existing impacts such that nature conservation values are maintained and enhanced.”

## Attachment A – Sites identified as grey nurse aggregation areas in the *OTLF Case*<sup>24</sup>

NSW sites:

- Julian Rocks<sup>25</sup> and Spot X<sup>26</sup> off Byron Bay;
- The Steps/Anemone Bay at North Solitary Island;<sup>27</sup>
- The E Gutters at North West Solitary Island;<sup>28</sup>
- Manta Arch at South Solitary Island;<sup>29</sup>
- Fish Rock<sup>30</sup> and Green Island off South West Rocks;<sup>31</sup>
- Mermaid Reef off Laurieton;<sup>32</sup>
- Latitude Reef and Spot A off Forster;<sup>33</sup>
- The Pinnacle off Forster;<sup>34</sup>
- Big and Little Seal Rocks<sup>35</sup> especially White Top Rock, Inner and Outer Edith Break, Skeleton Rocks and Sawtooth Rocks;
- Little Broughton Island off Port Stephens;<sup>36</sup>
- Foggys Cave off Terrigal;<sup>37</sup>
- Magic Point off Maroubra;<sup>38</sup>
- Long Reef off Sydney;<sup>39</sup>
- Bass Point off Shellharbour;<sup>40</sup>
- Tollgate Islands off Batemans Bay;<sup>41</sup> and
- Montague Island off Narooma.<sup>42</sup>

The Commonwealth sites include:

- Pimpernel Rock;<sup>43</sup> and
- Cod Grounds.<sup>44</sup>

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<sup>24</sup> [2007] AATA 1876; (2007) 98ALD 334. See footnote 7 above for full citation and link.

<sup>25</sup> 28°36'40" S, 153°37'45" E

<sup>26</sup> 28°36'24" S, 153°37'82" E

<sup>27</sup> 29° 55' 21.82"S, 153° 23' 20.51"E

<sup>28</sup> 30 09'80"S, 153 16'22"E

<sup>29</sup> 30°12'10" S, 153°16'05" E

<sup>30</sup> 30°56'25" S, 153°06'05" E

<sup>31</sup> 30°54'40" S, 153°05'30" E

<sup>32</sup> 31°46'20" S, 152°48'20" E

<sup>33</sup> 32.12.600 S – 152.36.000 E

<sup>34</sup> 32°13'40" S, 152°36'00" E

<sup>35</sup> 32°27'50" S, 152°33'15" E

<sup>36</sup> 32°37'05" S, 152°20'00" E

<sup>37</sup> 33.24.110 S, 151.30.228 E

<sup>38</sup> 33°57'20" S, 151°15'50" E

<sup>39</sup> 33.74.049S, 151.31.354 E

<sup>40</sup> 34°35'54" S, 150°54'57" E

<sup>41</sup> 35°44'50" S, 150°15'45" E

<sup>42</sup> 36°14'30" S, 150°13'40" E

<sup>43</sup> 29°41'55" S, 153°23'55" E

<sup>44</sup> 31°40'52"S, 152°54'37" E

**Attachment B – Ocean Trap and Line Fishery methods requiring additional management in grey nurse aggregation areas (NSW DPI<sup>45</sup>)**

Location	Fishery Method			
	Handline	Jigging	Setlines/trotlines	Fish trap
Anemone Bay/ The Steps	High risk	Medium		
Manta Arch – South Solitary Island	High	Medium		
Fish Rock and Green Island	High	Medium	High	
Mermaid Reef	High		High	Medium
The Pinnacle - Forster	High		High	
Big and Little Seal Rocks	High		High	
Sawtooth Rocks – Seal Rocks	Medium		High	
Edith Breaker – Seal Rocks	Medium		High	
Little Broughton Island	Medium/High		High	
Magic Point - Sydney	Medium		Medium	
Tollgate Islands – Batemans Bay	Medium		Medium	
Montague Island	High		Medium	

*Table 1 – Risk to Grey Nurse Shark from various fishing methods as identified in Ocean Trap and Line Fishery Environmental Impact Statement.*

<sup>45</sup> NSW Department of Primary Industries, *Ocean Trap and Line Fishery Environmental Impact Statement*, 2006.