

Submission  
No 771

## INQUIRY INTO RECREATIONAL FISHING

**Organisation:** Spot A Shark  
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14 March 2010

The Director  
Select Committee on Recreational Fishing  
Parliament House  
Macquarie St  
Sydney NSW 2000  
Fax: 9230 3416

Dear Director,

**Re: Recreational fishing (inquiry)**

Spot a Shark is a non-profit dive community research project that has been established in conjunction with the Marine Ecology Group at Macquarie University. Spot a Shark is a Grey Nurse Shark Photo ID research project, the ultimate goal of this project is to help conserve the Grey Nurse Shark population along the east coast of NSW by:

- Using a non-invasive Photo-ID approach to help track shark movement patterns between key aggregation sites
- Develop a solid data base of images to assist current & future scientific projects
- Enhance community involvement to assist in the greater protection of these endangered sharks

Our concern is the ongoing impacts to the “**Critically Endangered**” east coast population of Grey Nurse Sharks from recreational fishing activities and future impacts to the depleted population if a decision is made to overturn current Marine Protected Areas in NSW.

We believe that the areas currently protected for GNS, (such as critical habitat areas) have little protection for this species from recreational fishers. Areas such as these should be given a greater level of protection so the Grey Nurse Shark population can be given every opportunity to recover.

Further, less than 7% of the NSW marine environment is classed as ‘no-take’ areas. We believe that MPA’s in NSW waters should be increased not decreased. There are many publications (peer reviewed journal articles and government reports) that clearly identifies recreational fishing as a main threat to certain marine ecosystem’s & the overall biodiversity contained within them.

There are the added impacts to water quality from pollution in the form of discarded lines, fish hooks and plastic bait bags.

Any claim made by recreational fishing groups that the science behind marine parks is “voodoo science” is nothing sort a ludicrous and is an insult to the scientific profession and government bodies who all aim increase our fish stocks.

We believe that if the commercial fishing industry requires an Environmental Impact Statement (EIS) why then are recreational fishing groups not required to do the same?

Perhaps Mr Rob Brown should substantiate his claim that the science behind Marine Parks is “voodoo science” by way of his own peer reviewed report generated after years of studying the impacts of “recreational fishing”.

The truth is that many scientists have to undergo this form of audit to ensure the research remains factual, not personal opinion and/or conjecture. The fact is Marine Park Areas are created with an aim to help in the recovery process of fish stocks and help increase biodiversity and healthy ecosystems.

I refer you to the following recent Australian publications which support these facts:

**Recent Australian Publications supporting MPA's.**

McCook, L, Ayling, AM, Cappo, M, Choat, HJ, Evans, RD, De Freitas, DM, Heupel, M, Hughes, TP, Jones, GP, Mapstone, BD, Marsh, H, Mills, M, Molloy, FJ, Pitcher, CR, Pressey, RL, Russ, GR, Sutton, S, Sweatman, HPA, Tobin, R, Wachenfeld, DR & Williamson, DH (2010) 'Adaptive management of the Great Barrier Reef: a globally significant demonstration of the benefits of networks of marine reserves', *PNAS*, (online 22 February).

**Peer reviewed publication that validates photo identification methods and frequency of fishing related injuries:**

Bansemer, C. S., and Bennett, M. B. (2008). Multi-year validation of photographic identification of grey nurse sharks, *Carcharias taurus*, and applications for non-invasive conservation research. *Marine and Freshwater Research* **59**, 322-331.

Bansemer, C. S., and Bennett, M. B. (2009). Reproduction periodicity, localised movements and behavioural segregation of pregnant *Carcharias taurus* at Wolf Rock, southeast Queensland, Australia. *Marine Ecology Progress Series* **374**, 215-227.

Bansemer, C. S., and Bennett, M. B. (2010). Retained fishing gear and associated injuries in the east Australian grey nurse sharks (*Carcharias taurus*): implications for population recovery. *Marine and Freshwater Research* **61**, 97-103.

## Background

### East coast Grey Nurse Shark population

It has been well documented, that the east coast population of Grey Nurse Sharks has shown a major decline over the last 50 to 60 years due to the ongoing beach cleaning program, extensive fishing pressures in the 1960s - 1970s from recreational spearfishers and game fishers. The Grey Nurse Shark has a slow growth rate, late maturity and one of the lowest reproductive rates of all shark species. The estimated population size is quite controversial, but scientific belief is it is well below the number considered to be sustainable.

As such the Grey Nurse Shark has been classified, "Critically Endangered" by

- Commonwealth Environmental Protection and Biodiversity Conservation Act 1999: (east coast population)
- IUCN globally – Vulnerable, Australia, NSW Critically Endangered; Red listed as a Threatened Species

Below is an extract from the, OTLF's Risk Assessment for Threatened Species;

*Fishing by hook and line is used in the Ocean Trap and Line Fishery and in recreational fishing. This method of fishing is considered a threat to grey nurse sharks for the following reasons. Grey nurse sharks form aggregations which, when hook and line fishing is used in the area of these aggregations, make them more likely to be hooked. The damage inflicted on grey nurse sharks by hooks include injuries to their mouths potentially affecting feeding behaviour, ingestion of hooks causing perforations to internal organs potentially leading to septicaemia and bacterial infection that could result in death (NSW Fisheries Committee, 2002). This suggests that even when grey nurse sharks are caught and released by either commercial or recreational fishers, hook damage may be substantial enough to still threaten survival or well-being of the shark.*

It is clear that recreational fishing is considered a substantial threat to the survival of Grey Nurse Sharks. We can confirm how big a threat recreational fishing is to the east coast population and the impact that recreational fishing is having on Grey Nurse Sharks.

We have received and taken countless images / video of Grey Nurse sharks trailing hooks, sharks with extensive damage to their jaws & malnourished animals that are in the latter stages of starvation.

Below is a small selection of images we have;

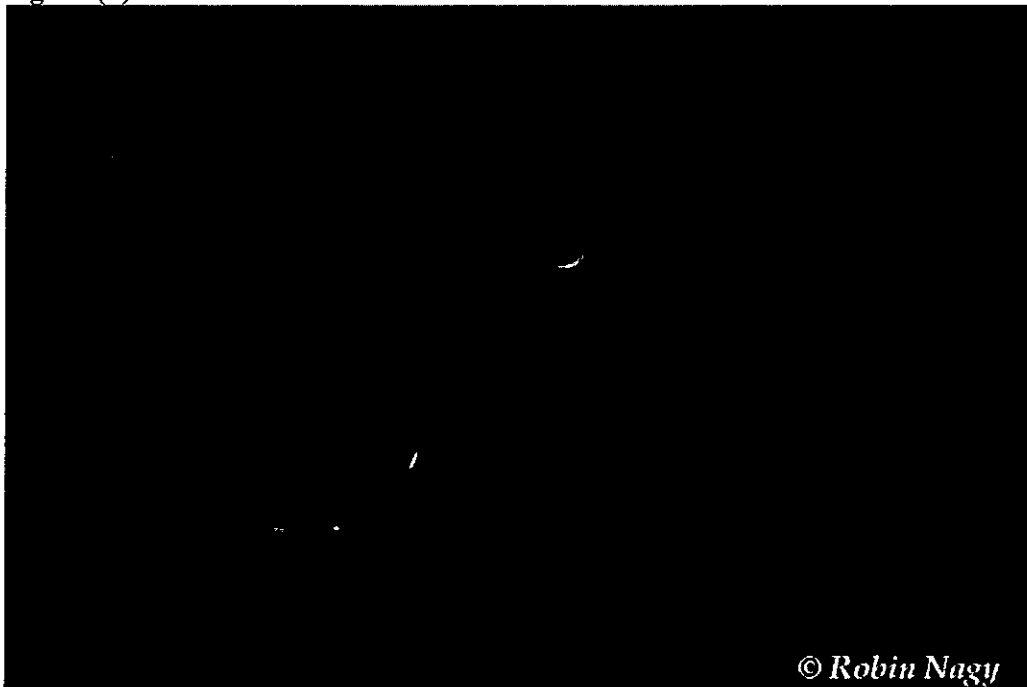
## Hooked Images

Figure (a)



This image was taken on the 04.07.08 at South Solitary Is of a mature male, which has clearly been hooked.

Figure (b)



This image is a close up of figure (a) which clearly shows the shark has sustained a head injury. We believe this shark would have been brought to the surface to have sustained this injury.

**Figure (c)**



This image was taken on 14.03.09 at Fish Rock. This shows clearly a shark trailing a wire trace which is protruding from its gills, we presume that the hook is embedded inside the mouth and has been there for some time as it is has substantial growth.

**Figure (d)**



This image was taken on 05.02.06 at Big Seal Rocks, which clearly shows a shark trailing a wire trace, looking at the condition of this shark we believe the hook has affected its ability to feed, and it would have died of starvation.

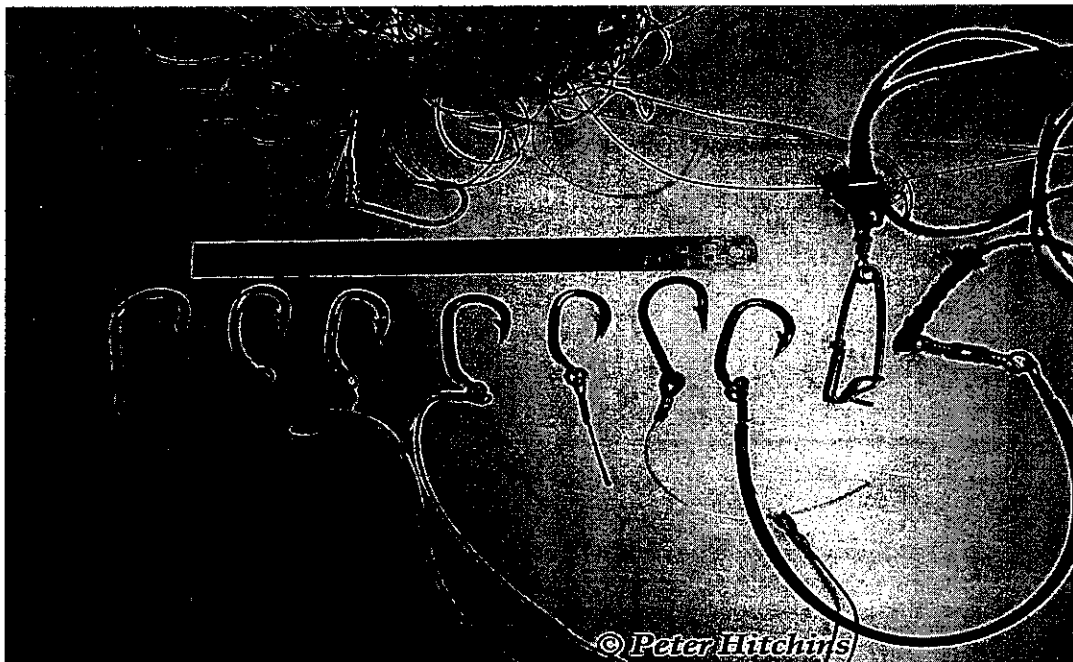
Figure (e)



© John Jeayes

This image was taken at Fish Rock on the 29/10/09 which clearly shows a shark with multiple hooks imbedded in its mouth & gills.

Figure (e)



© Peter Hitchins

This image was sent to us by South West Rocks Dive Centre, all this gear was retrieved from Fish Rock which is a critical habitat site, and again this is clear evidence of the amount of recreational fishing that occurs in these protected areas.

## Recommendations

We encourage the government to create a Comprehensive, Adequate and Representative (CAR) system of marine parks in this state.

The recommended steps in this process are:

1. An Environment Impact Statement (EIS) must be done on all forms of recreational fishing.
2. The advisory body on recreational fishing must also include all representatives from the Marine Park Authority such as the diving community, academic institutions and the conservation sector.
3. The Marine Park Authority (MPA) must provide a significant increase in the number of sanctuary zones inside the Solitary Islands and Jervis Bay Marine Parks;
4. The MPA must create a multi-use Marine Park in the Sydney area; and the immediate creation of no-take aquatic reserves at Fish Rock/Green Island and other Grey Nurse shark aggregation sites.
5. The MPA must quantify the "total catch" and "effort" for recreational fishing; and post release mortality, under-sized or protected fish captures should be measured.
6. The MPA must include a plan to employ law enforcement officers (Rangers) to ensure that recreational fishers are accountable for their waste, in the form of lost gear, bait bags and other forms of litter or illegal fishing activities.

The recommended changes to critical habitat areas for the GNS are:

1. The current restrictions in place at all critical habitat sites need to be increased to encompass a 1.5km "no – take" zone, as per a 2003 report commissioned by DPI and carried out by Dr John Stevens (CSIRO Marine Research).
2. Sites such as South & North Solitary Island, need to be deemed as critical habitat sites, both North & South Solitary Islands skirts the western edge of Solitary Islands Marine Park with only a 200 meter exclusion zone on the western side of the island.
3. The current sanctuary at Pimpernel Rock zone is only 500 meters, which is well short of research findings that has shown that grey nurse sharks may move up to 1.2 km from aggregation sites at night. Unless further protection is put in place, there will be continued impact on the east coast population.

If these recommendations are not implemented, we will continue to see dramatic effects from recreational fishing on the grey nurse shark population.

If you have any questions regarding our submission or you require any further information on any of our content, please contact Spot a Shark, [info@spotashark.com](mailto:info@spotashark.com) or Sean Barker on [redacted] Peter Simpson on [redacted]

Regards,  
Sean Barker & Peter Simpson