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NARRABEEN  
NSW 2101

Threatened Species Unit (Grey Nurse Shark),  
NSW Fisheries,  
Private Bag 1,  
Nelson Bay, NSW 2315

**Re: Comments on NSW Fisheries Discussion Paper for Grey Nurse Shark  
Protection July 2003**

Dear Sir,

There can be no dispute that numbers of grey nurse shark are lower than what they were say 30 or 40 years ago, and protection of the species is required. However, the methods used by NSW Fisheries in estimating the actual numbers of grey nurse shark is questionable, and this throws doubt on their estimated numbers. The data collection is seen as being biased and unscientific as it is relying on observations made by one group, the eco-tourism divers, that are known to have an anti-fishing and anti-freediving agenda. Observations on numbers of grey nurse sharks made by other groups such as members of the NSW Spearfishing and Freedivers Association have been dismissed without any apparent reason.

The previous estimate of 242 from NSW Fisheries survey 7 of June 2000 merely represents the absolute minimum number of grey nurse sharks along the eastern seaboard. The question needs to be asked of NSW Fisheries is the estimate of 300-500 sharks a fair estimate following assistance given to them by various spearfishing groups in identifying other aggregation sites? Is a multiplying factor required and if so, what is it? Secondly, if the figure of 300 individuals is accurate, then a limited gene pool amongst the population is a real problem and NSW Fisheries should be looking at methods increasing the gene pool and breeding between stocks.

The biased nature of data gathering could also explain the apparent contradiction that 17% of previously tagged sharks reported by eco-tourism divers now carry fish hooks (with some reports by dive operators placing this figure as high as 75%), but 17% of the overall grey nurse shark population are not seen carrying hooks. Increasing this

percentage to some value greater than 17% of the shark population to include hooks located internally is simply not valid but mere speculation and scare mongering.

The discussion paper makes no mention of the apparent lack of pups and juveniles in observed groups. Grey nurse sharks are known to be oviphagous (consuming other fertilised ova), and with uterine cannibalism. This means that there are 1 to 2 pups per litter and the gestation period is 7-9 months, and 2 years between offspring for the females. This however does not explain the apparent lack of pups and juveniles. The likely reason for this lack of juveniles is a reduction in the number of recruits into the population either through habitat degradation or behavioural changes brought about by human interaction such as scuba diving during periods of seasonal aggregation for reproduction purposes. It is not due to recreational anglers catching and killing juvenile grey nurse sharks, an unfounded and unsubstantiated claim made by the dive operators and various greens groups.

Grey nurse sharks, like other species that aggregate, are known to have a hierarchy based on dominance of individuals, and of the group as a whole over other species. When a foreign species enters their territory in a superior or higher dominance manner, the group will acquiesce and move onto another location, and this is particularly true if this foreign species has noisy apparatus and makes lots of bubbles. Dive operators know this and their dive locations shift accordingly, but have they recorded the effects they have on the sharks and do NSW Fisheries acknowledge this fact and the effect it has on spawning?

The reference to potential flow-on benefits of increased protection and the use of protected areas as a fisheries management tools is of dubious merit. Both arguments are based on the theory of population dynamics and attempting to apply it to the marine environment. There is not unanimous agreement amongst scientists and fisheries managers that protected areas universally result in spill-over effects to other sinks or are universally effective as fisheries management tools, especially for migratory species of fish. This comment is seen as an attempt to placate recreational anglers for increased access restrictions.

Charter operators, professional anglers, recreational anglers and spear fishermen have a valid argument when they say it is discriminatory that the groups that pay a license to fish are facing increased access restrictions, and the group that does not contribute financially will benefit with sole access to these sites. Aside from the benefits to the population of the grey nurse shark, any plan that involves access restrictions in the protection of the grey nurse shark must not only be equitable to all stakeholders in all respects, but also must be seen to be equitable to all stakeholders in all respects.

The July 2003 discussion paper is aimed at minimising fishing-related mortality and its thrust is emphasising hook related injury and death. Little or no mention is made of other types of incidental mortality such as beach meshing, and other factors that may affect their spawning and hence the number of recruits such as the effects of human interaction in periods of aggregation for spawning. Whatever further restrictions are placed on recreational angling, consideration should be given to:

- i) No human interaction at all within 1000m exclusion zones in the previously identified critical habitat areas.

- ii) Expand the data acquisition to include other sectors and groups besides the eco-tourism divers, coupled with increased usage of “smart tags”.
- iii) Regulation of the Eco-tourism industry through licensing and registration, limitations placed on registrations, the number of dives per day and the number of divers per dive, introduction of qualified and licensed guides and strict limits from where they can observe the grey nurse shark and restrict permissible equipment. This includes a total ban on scuba-diving within a 1000m exclusion zone in all critical habitat areas.

The tone of the July 2003 discussion paper is rather emotive, consisting of about 90% finger pointing and about 10% facts, some of which is of dubious quality. Recreational anglers and spearfishers are seen as easy targets by dive operators and greens groups in a process involving flawed and incomplete scientific data. NSW Fisheries is relying on data obtained from a group that has an anti-fishing and anti-freediving agenda, and this same group refuses to acknowledge that their activities could have detrimental effects on the grey nurse shark population and their behaviour. Our group recognises the need for protection of the grey nurse shark, and we hope that NSW Fisheries acts accordingly in the best interests of the grey nurse shark and not acquiesce to the anti-fishing and anti-spearfishing agenda of the tour operators and greens groups.

Yours sincerely

Phillip Ingram  
President  
AAG (Sydney Northside) Inc.