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Select Committee on Recreational Fishing
Parliament House
Macquarie St
SYDNEY NSW 2000

Dear Chairman and members of the Select Committee

On behalf of the Underwater Skindivers and Fishermen's Association and the other representatives, who were part of the USFA delegation, Mr. Adrian Wayne and Mr. Oliver Wady, thank you for the opportunity on 27 April 2010 to present our submission (920) for spearfishing New South Wales.

The following detailed response to your additional questions is put forward as an extension of our submission. We look forward to any further questions you may have or indeed the opportunity for any further personal representation.

In summation, marine park areas in NSW are scientifically unjustified and we do not accept the implications to spearfishers resulting from the imposition of no take (lock out) zones or the closing of areas due to the presence of Grey Nurse Sharks. With that, given the credentials of spearfishing as the most conservative and sight-based form of fishing, accredited spearfishers should be permitted access to marine park sanctuaries to hunt at a minimum pelagic (typically migratory) fish species.

Yours sincerely

Peter Saunders
Chairman



Additional questions from members:

1. **The Committee has heard evidence that suggests that 'divers' (the witness was describing SCUBA divers) disrupt fish aggregation. Can you comment on any observed effects of scuba divers, particularly regular multi-diver parties, on aggregation of Grey Nurse Sharks?**

It has been observed by Underwater Skindivers and Fishermen's Association (USFA) members that over the last decade, in particular when eco-tourism became more mainstream and prevalent, that the number of Grey Nurse Sharks (GNS) sighted in known locations of GNS aggregation has deteriorated significantly.

A prime example of this is Magic Point at Maroubra where spearfishers were privy to an aggregation of GNS over the previous 2 decades prior to multi-diver SCUBA diver parties being introduced on an increasingly regular basis by commercial operators. In this instance, the number of sharks has reduced to between six and twelve sharks compared to previously twenty or even more sharks.

Other GNS sharks can be found in the area however these are not in proximity to SCUBA divers, suggesting that the fish prefer to remain a considerable distance from the main ledge due to the imposition of scuba activities on their preferred habitat. The notion of diving with sharks for an adrenaline rush is understood however the over exploitation of specific areas is menacing to the species when they are subjected to a proliferation of commercial dive operators that each have the potential to visit the spot more than once a day and potentially again at night with ten or more divers on board their vessel. Diving with sharks is heavily promoted ("Shark Dives") and to fulfill the promise to paying customers who pay to dive with sharks, operators have little choice but to proceed directly and repeatedly to aggregation sites. This commercialization and constant pestering of GNS we therefore conclude is the reason for the sharks' inhibitions when SCUBA divers are in their presence.

Research from the NSW DPI (NSW Fisheries Discussion Paper for Grey Nurse Shark Protection 2003) indicates that NSW DPI (now known as Department of Industry and Investment [DI&I]) is aware of GNS ventilating a lot more from their aggregation and resting sites due to the presence of SCUBA activities.

As recently shown in the CSIRO GNS study conducted by Dr. Marcus Lincoln-Smith (Recovery Program for GNS 2009), much higher counts of GNS were found by utilizing freediving (breath-hold) diving as opposed to SCUBA diving (Self Contained Underwater Breathing Apparatus). Specifically, it was observed that GNS vacate the area when research divers were using SCUBA however when the research divers recommenced freediving, the GNS returned within a short frame of time. It could be therefore concluded that the activity of SCUBA diving through the constant disruption caused by expelled air being audibly and visually purged is leading to sharks leaving their aggregation sites during periods of time reserved by the sharks for rest and digestion.

Similarly when further equipment such as strobe lights or flash devices on underwater cameras is introduced, GNS react negatively by being noticeably spooked and vacating the area. Proof of this can be seen where at one of the gazetted key GNS aggregation sites in Bass Point NSW underwater video evidence observed by the USFA exists confirming that GNS are susceptible to flash photography. In this case a GNS being photographed reacted strongly to the flash by exiting its position instantly and rapidly as if it were distressed by the incursion of the flash.

Finally through observation USFA freedivers have noted that the sharks have accumulated in sites where there is no pressure from scuba divers, generally some distance from their original space. We are not at liberty to disclose these sites which number many, as members have been deceived by legislation subsequently enacted when asked to disclose fishing grounds or GNS sites for "scientists" to consider where marine park and GNS critical habitat boundaries fall. It would be even fair to assume that if GNS were to for some reason move into an artificial reef designated for fishing, access to the fishing grounds would be at risk of closure.

2. Does the presence of spearfishers, including the spearing of fish, have any impacts on fish aggregation, particularly on Grey Nurse Sharks?

No, generally not as USFA divers abide by a strict code of conduct that limits the catch rates according to legislation and requirements for personal consumption, specific code of conduct for diver behaviour in the presence of GNS and freedivers only spearfish in daylight hours. As mentioned at the Parliamentary Select Committee hearing on 27 April 2010 (Submission 920 – USFA) the practice of spearing pelagics and some reef fish has been allowed for more than 10 years at Fish Rock (South West Rocks, NSW) with no effects on GNS populations and no complaints from SCUBA operators.

The activity of spearfishing which uses breath hold diving is inconsequential to GNS behaviour in that very little (if any) disturbance results from a diver's presence. This can be evidenced in a multitude of video show reels that exist from present day dating back to black and white 16mm film taken in the 1960's. The act of spearing a fish in immediate proximity is not advocated by the USFA and divers are encouraged to keep a minimum distance of five metres from GNS and to retreat discretely if the shark changes direction towards the diver. Similarly divers are not to block the path of a shark or use flash photography. In terms of evolving practices, burleying (typically for game fish) would be discouraged where GNS are known to be present. This is an extension to our Code of Conduct that requires spearfishers to vacate the area if for any reason GNS become agitated.

Although GNS are very easy to identify, a considerable amount of work has been done to educate divers and encourage them also to participate in research such as the recent Federal Government GNS survey and 2004 NSW Fisheries survey for GNS (Nick Otway), (Marcus Lincoln Smith) in order to build their skills and contribute to science.

From the stand point of competing for the food source of GNS, spearfishing comprises of only one percent of all fishing effort in New South Wales according to the National Recreational and Indigenous Fishing Survey: FRDC Program 99/158, Henry G. W. and Wild J.M. (2003).

This can be further supported through DPI meetings with spearfishers, where NSW DPI has confirmed to the USFA that Mulloway and Kingfish are regarded as prime GNS food sources. Taking this notion and comparing the recreational catch rate of fish taken by spear, the quantity of fish taken in NSW waters per annum totals 4,000 kg which equates to a mere impact of 2.7kg of fish (food source) per shark per year based on the reported estimated population of between 1,365 – 1,662 GNS on the East

Coast of Australia (CSIRO Recovery Plan for GNS 2009). This concludes that spearfishers have little or no impact to the food source of GNS considering the average size of shark and the relative food consumption rates required to maintain their biomass.

In closing on this point it is accepted that the image of "old days" of spearing GNS has tarnished the image of spearfishing. This is unfortunate as it has been many decades since a few individuals made their presence known in front of the camera behaving this way. For decades now the USFA has been at the forefront of best practice in relation to diver conduct in the proximity of GNS. Even very high profile spearfishers who were directly involved in capturing GNS in the 1960's admit that their behaviours are regrettable and irresponsible, hence now their heavy involvement in global conservation initiatives. Today spearfishers see themselves as the underwater guardians of protected species through the sight based advantage we share over most other aquatic users or other forms of fishing.

3. How would you propose that a) access be managed, and b) accreditation be implemented, so that spearfishers could be given to hunt in GNS or other sanctuary areas?

Diver accreditation for spearfishing is a governing framework that binds spearfishers to the relevant state and national maritime and fisheries regulations. It ensures that spearfishers adhere to predetermined standards that assure the quality of interaction with the marine environment, its inhabitants and other aquatic users. For a diver to be accredited they must initially subscribe to a USFA membership which in signing their application binds them to the Code of Conduct, safety rules, conservation principles and ethics for the treatment of the environment, wildlife, game and other aquatic users. This is the entry level. From this point there are multiple levels of diver accreditation for spearfishing including, intermediate, advanced and spearmaster. By way of summary, to progress through these levels speardivers must successfully undertake an examination of their knowledge, remain free of any legal actions pertaining to recreational fishing, attain complementary certificates (e.g. Coxwains and First Aid) and have held certain prior levels of accreditation for acceptable periods prior to progressing to higher levels. In answering these questions the sentiment for achieving the desired outcome is our commitment to a process that would be undertaken collaboratively with government and stakeholders with a complete understanding of the complexity of a change of this magnitude. Our goal ending in accreditation is to ultimately have amateur spearfishing recognized as an ecologically sustainable and responsible method of capturing wild fish and acknowledged as being constrained by inherent physiological limitations that by their virtue restrict participants from accessing the vast majority of fishing grounds.

In answer to point (a), there are a number of workable options to manage access to restricted areas which vary from basic acceptance that accredited divers are responsible fishers through to a fully regulated scenario that involves an electronic booking system for eligible divers. These scenarios can be explained as follows:

- In its most simplistic form, formal acknowledgement that an accredited spearfisher is capable of speardiving responsibly is recognition of the fact the diver has attained a predetermined level of accreditation. This permits them at any time to access restricted areas to hunt generally pelagic (migratory) species providing their status of accreditation is current, they possess a current NSW fishing fee receipt and can demonstrate this to Marine Parks compliance officers whilst operating in these restricted areas.
- The alternative (sophisticated) scenario is an electronic booking system that eligible divers access prior to entering the water (when planning a dive). In sum, the model would be consistent with the currently operative NSW Game Council "R" and "G" hunting licence back-end system that allows diver to select from a range of sites, check availability (as access would be regulated in number of allowable bookings at any one time), book a permit to spearfish in a restricted area and finally return information to the system following the dive to objectively report on information regarding the species captured.

In response to point (b) to make this system operative we would consult with the delegated officers within NSW Fisheries (DI&I), Marine Parks and other stakeholder groups to seek an amendment to the Fisheries Act that would allow for ultimate refinement of the acceptable conditions for accredited spearfishing in restricted areas and their formal introduction.

Beyond this milestone and the implementation of any systems required to facilitate the scheme's introduction, a broad education program would be established over a period of time to allow spearfishers to achieve accreditation, properly understand the conditions and carry out their spearfishing in the prescribed manner. The awareness and education program would be a multi-channel approach targeted to NSW Fisheries, NSW spearfishers, interstate spearfishers (that wish to dive in NSW waters – especially any restricted areas), Marine Parks Offices, all relevant compliance officers, the spearfishing equipment industry and anglers statewide. It is envisaged that the NSW Saltwater Guide, the Guide to Spearfishing in NSW and the Internet would become the definitive public resource for awareness, understanding and compliance. Similarly, any existing signage adjacent to boat ramps or access points in proximity to restricted areas (in particular) would be updated with notice and information.

4. **A witness suggested that sanctuary zones along headlands and outcrops should have a buffer zone, extending 100m offshore, to allow land based anglers to fish those areas. Can the same suggestion be utilised for spearfishing, and how would you propose to manage conflict of access between these two groups of anglers?**

Yes a buffer system could work, because it should be recognized that spearfishing is limited to shallow water reef typically limited to 20 metres in depth or much less for most divers, therefore limited typically in close proximity to rocky headlands or outcrops. This would allow spearfishing access to sanctuary zones where previously spearfishers through their physiological limitations have been unfairly locked out of accessible fishing grounds. By contrast, anglers enjoy a much greater proportion of (permissible)

accessible fishing grounds as they have the ability to reach vast depths of up to several hundred metres.

In respect of managing (any) conflict there would be at least two areas to address. Firstly in areas where both spearfishers and (most likely for this scenario) land based anglers would be operating in the same area the existing principles under the USFA code of conduct would apply. This entails spearfishers keeping a minimum "distance off" anglers and remaining courteous in their approach and if necessary transiting the location of the angler and their gear in the water. Generally with a friendly precursory wave of the hand a diver can be granted permission to pass the angler without incident. The USFA continuously engenders this type of attitude amongst divers. This has been happening for more than 50 years at every headland in NSW without any real issues. The solution to conflict is already in place and working well.

Secondly, in the case where a headland may be permitted for the exclusive use of spearfishers, we see this as being a simple case of education to bring about public acceptance that spearfishers would otherwise remain unfairly disadvantaged without access to such areas.

The representative fishing groups within NSW openly accept the shortcoming for spearfishers in the Marine Parks legislation and therefore working together with them to agree on areas suitable for land-based fishing only areas, spearfishing only areas or combinations would be a simple process.

To manage any potential conflict with anglers we would strengthen our code of conduct to align to the sentiments of these zones and include this in educational resources.

5. If artificial reefs could be employed to provide habitat for spearfishing, in what sort of locations could these reefs be placed? How would conflicts with, say, boat-based line fishing be managed?

The first comment to be made about artificial reefs created with the use of Recreational Fishing Trust proceeds is the use of these installations by SCUBA divers. We would not support multi-use for this user group as they do not contribute to the resource.

Currently these installations are placed in water too deep for spearfishers or in enclosed waters that restrict spearfishing. Many of the programs undertaken by the trust fund, whilst beneficial to the fishery possess little direct benefit for spearfishing. Our aim would be to see future installations placed in oceanic areas of less than 20 metres depth at the highest astronomical tide. Ideally these areas would be equally accessible by both shore based divers and boat divers. It is understood that sand movement, shore breaks and other factors need to be taken into careful consideration, however if as a group spearfishers were consulted and beneficial action taken in light of our physical constraints this would be a start.

In the case of large artificial reefs such as decommissioned ships, during a recent ACoRF meeting the ban of fishing and spearfishing on the new wreck off Avoca Beach was discussed. As tax payers we do not understand why such installations could not be multi-use zones. This is extremely unfair and is biased in favour of SCUBA divers who have also been instrumental in limiting the access of fishers on natural reef. NSW DPI provided assurances to spearfishing representatives from the USFA at a 2008-09 ACoRF meeting that if spearfishing and fishing were to be banned in proximity to this wreck that they could implement closures against SCUBA divers on artificial reefs thus helping to reduce the pressure of diver conflict.

To manage the interaction with boat based anglers we would strengthen our code of conduct, simultaneously refresh the etiquette for diving FADs and introduce parallel standards to accommodate the scenario of artificial reefs.

Using the idea of the aforementioned NSW Game Council model as it relates to accredited divers is indicative of the type of "access by permission and booking" system that would work for fishers and spearfishers. Alternatively for pre-set multi-use of the resource the legislation (process) adopted by Victorian Fisheries for the management of Abalone model serves as a precedent whereby access applies to certain days. This could be adopted to regulate user interaction with the artificial reef and if necessary regulation of the intermixing of other user groups.

6. **Is the USFA capable of accrediting speafishers for "permit" based access to "sensitive" areas? How would the USFA go about setting up such a system? Would the benefits of being able to access "special" areas then attract non-aligned spearfishers to accredit with a peak body, such as the USFA?**

Yes USFA is capable of accrediting spearfishers for permit-based access to restricted areas. As outlined in the response to question three above, the accreditation system is possible and a model in that of the NSW Game Council already exists as forerunner to the philosophy and frameworks necessary to operate the scheme. Spearfishing is already synonymous with conservation. Accreditation of spearfishers is a priority option to further inculcate these (conservation and ethical) values within divers thus allowing ultimately for regulated spearfishing within prescribed sanctuary zones.

Being the peak representative body for spearfishing in NSW the USFA would initially accredit spearfishers internally through a framework of voluntary self regulation using the levels mentioned in question three. To begin with USFA would through its own resources accredit a number of examiners via the club network and provide divers with the opportunity to progress to higher levels through initially examining them against a standard questionnaire then further assessing their credentials against criteria allowing them to progress to other levels.

Data would be held centrally, each diver's USFA membership card would be in turn upgraded at each point of successful advancement through the program over time. Similarly we would seek the a conversation with NSW Fisheries regarding diver status being assigned to their NSW Fishing Fee Receipt (Licence). It is envisaged the system would be user pays to allow for it to be self funding in the long-term. Funds however would be sought or generated to allow the scheme to be initially established. The ideal scenario would be for a technology based system (web based) for the entire process to ensure data capture and integrity, as well as offer a scheme that is user friendly to spearfishers. This would include an on-line examination which could be carried out in the presence of an approved examiner or third party.

Concurrently USFA would seek a change in the Fisheries Act to accommodate properly accredited USFA divers in restricted areas and we would jointly undertake an education program with other stakeholders including government and other aquatic users.

In practice a properly accredited diver would be able to if approached by compliance officers produce the necessary credentials (water resistant USFA card) and depending on the nature of the scheme introduced, also potentially an approved permit for that day, in that location. A printed form enclosed in an inexpensive waterproof pouch may be all that is necessary. We would also advocate the use of a new flag of designated colour in addition to the mandatory "Code A" Diver Below flag (especially in the case of boats). This would be used to avoid the diver's legitimacy coming into question by other aquatic users such as anglers or SCUBA divers who would be made aware through prior education, thus avoiding any potential conflict.

Continuing on the third part within the question, yes the scheme would attract non-USFA members as we would be able to leverage the key benefits of permit-based access to restricted areas to the general spearfishing community. Using our industry partner network and point of sale promotions it would be possible to capture the attention of independent divers who regularly visit retailers, web-stores and read commercial spearfishing periodicals to which we are actively involved. Beyond this, social media and word-of-mouth would be leveraged to generate awareness and applicant conversion, the aim being to gain the commitment of divers to the USFA philosophies and Code of Conduct that they must agree to when they join.

In this way by allowing divers access to restricted areas the USFA diver accreditation scheme has greater influence and opportunity to self-regulate diver behaviour overall by being able to enforce conditions that may lead to the loss of highly sought after privileges. In addition, advanced and spearmaster level divers would bestow strong positive cultural values on developing divers as their (Advanced Accredited Diver or Spearmaster) accreditation may be jeopardised if (whilst in their presence) a developing diver is detected with a departure from the Code of Conduct. The enforcement of the conditions would be taken seriously and once reported to the USFA the USFA Executive would convene investigations into alleged breaches and subsequently determine and enact either the penalty or recommended remedial action. This would include regular publicity to member divers about any such scenarios, what has been learned and the action that was taken; again to reinforce positive behaviour.

Additionally, in reading through the Hansard, the USFA became aware of two questions that were taken on notice from the committee, and we would like to respond to these questions at this time.

1. Scientific name of blue fish:

Girella cyanea.

2. That the USFA commented that the National Parks Association's claims were incorrect in regards to marine parks: What evidence do you have—you might want to take this question on notice—to arrive at that view that the National Parks Association is out of step with science? ...

In responding to this question the USFA has noted with interest the initial aims of the Marine Parks Authorities as stated on the government website is: "NSW is committed by national and international agreements to conserving the diversity of marine life and ensuring that marine resources are carefully managed for the use and enjoyment of people today and in the future. "<http://www.mpa.nsw.gov.au/> In following the argument of marine parks and the need to protect biodiversity it seems that both the National Parks Association and the Marine Parks Authority have moved away from the stated need to protect biodiversity, and instead have focused solely on biomass with specific reference to fish species

This has been clearly demonstrated to the USFA by the fact that of the main identified threats to the marine environment- these being pollution, invasive species, land degradation and coastal development and recreational fishing only one area has seen to be targeted for attention by both the Marine Parks Association and the National Parks Association for attention and action in the waters of NSW. This is clearly demonstrated through the report Emeritus Prof Bob Kearney's prepared for ACoRF as a response to the NPA document the Torn Blue Fringe: http://www.sportsfish.com.au/downloads/ACORF_Final_Report_19-03-09.pdf

In a recent presentation at the University of Hobart by Tim Lynch, former researcher with Jervis Bay Marine Park Authority, Tim is noted as saying that the best results for reserves is to target them for areas of high fishing pressure. This video can be viewed via: <http://www.cmar.csiro.au/seminars/hobart/sem-abs08/CMAR%20Science%20Seminar%20-%20Lynch%20251108.wmv>

This is supported by a paper by Tim Lynch entitled "Incorporation of Recreational Fishing Effort into Design of Marine Protected Areas" (2006)

In demonstrating the basis for the sanctuary zones at Jervis Bay, Mr Lynch overlays the map of Jervis Bay with a diagram of observed fishing effort, as observed by MPA officers. The vast majority of effort for Jervis Bay is indicated to occur within the bay area itself. In light of the comments made by Mr Lynch where sanctuaries should be placed where fishing pressures are at their highest, then there should only be sanctuaries placed within the bay, and not outside the bay area of Jervis. Yet reflection on the map of Jervis Bay Marine Park (JBMP) shows that 2 of the largest sanctuary areas are actually based on the outside of the bay area- with sanctuaries running for a number of kilometres along the coast, and out to sea. These areas have been frequented by spearfishers for decades, and yet the MPA studies have revealed that they have no knowledge of this activity, as by their own admission they did not study this part of the park. In light of this, it would suggest that other motives are behind the planning of sanctuary zones. In the same vein, there is no science to support the banning of taking of slipper lobsters in the JBMP, and combined with no consultation prior to the implementation of a zero bag or possession limit, one has to ask; what process is being applied in assessing, determining and justifying sanctuary areas in NSW marine parks (?).

The paper by Mr Lynch also refers to the consultation with green groups such as NPA who were pushing for sanctuaries areas of between 20 and 50%, but as noted by Mr Lynch, "simple percentage targets should be used at caution". It is interesting to note that Jervis Bay has just over 20% of the available area included as sanctuary zone, incorporating the area to the north of Point Perpendicular and south at Steamers Beach. Both areas have very little research conducted on them, in terms of fishing activity, so it would be interesting to see the overall impact on the percentage of sanctuary area that would be reduced if these two zones were removed. Obviously it would fall below the 20% minimum that conservation Green groups have demanded, yet there can be no real claim to scientifically justify them.

It is the considered thought of the USFA that if marine parks are to be used as a tool to genuinely protect of the biodiversity from all the known environmental threats and not just those posed by fishing, this would incorporate more than just looking at the numbers of fish present, as the marine environment is made up of more than just fish species. As Mr Lynch noted during his presentation in Hobart, if a near virgin area was protected it would be expected that the KPI for the biodiversity would be no change. By having zero change this would indicate that the integrity of the environment was being protected against any identified threats. Unfortunately there would not be an observed increase in biomass, as might be found in an area that had previously been fished, so for this reason it is not chosen as a sensible indicator of environmental health. For this reason the USFA believes that measures for protection that are currently in place through sanctuaries are not actually designed for addressing environmental issues but are solely targeted at fishing practices with an over emphasis on the technique of spearfishing, which is demonstrable to be the most sustainable method of fishing known.

The USFA also draws attention to the draft document that was prepared by 3 members of the Jervis Bay Marine Park Authority: Competition Spearfishing Report for Jervis Bay Marine Park. We again stress this was a draft, but perhaps gets to the root of the issue in regards to the USFA's claims in terms of poor science being used (by groups) to justify sanctuary zones.

This draft report was prepared in 2007 and was supposed to examine spearfishing impacts on Jervis Bay from USFA (then known as AUF) competitions. Organisers of competitions supplied the MPA with data from each competition held in or near the marine park so that potential impacts could be examined. Organisers of the competition, and specifically Mr Oliver Wady spent innumerable hours with one of the authors- Mr Osterloh in both verbal and written correspondence and meetings explaining how competitions were run, the rules that applied and score sheets for the competitions. The draft report that was presented to the committee, at which USFA representatives were invited to attend, was found to contain very little, if any of the information that had been supplied. Indeed the authors had relied on competition information from Europe to explain the competition rules and format. Of even greater concern was the findings as the authors had found that species of fish that were regarded as uncommon for spearfishers to capture were regarded by the authors to be amongst the most prolific species taken during spearfishing competitions. This came as a complete surprise to spearfishers attending the meeting. In retrospect it was found by the spearfishers present that the authors in processing the data had incorrectly assessed the fish species and placed data in incorrect cells within a spreadsheet. What has most alarmed spearfishers about this report is that the three authors all worked for a local Marine Park Authority, yet none of them realise that fish such as Rainbow Runner (a highly pelagic fish normally found in warm tropical waters around Qld and the Pacific) and Magpie Morwong (rarely found north of Eden) were regarded by the analysis as the most prolific captures. This clearly demonstrated to spearfishers that researchers and managers had a complete lack of understanding of both the fish assemblages and activities that were occurring in the local waters they have been tasked and paid to manage. Equally of concern was that undisclosed funding that was spent on a report that was fundamental and statistically flawed, and raises concerns about other science that may have been produced or used as evidence to support further restrictions against fishing activities including spearfishing.

A media release by the NSW government on 31st of January 2005 by Hon Bob Debus is also interesting to read in light of the claim that science is the basis of the need and placement of sanctuaries in NSW marine parks. Mr Debus's media release stated, "It should also be noted that commercial and recreational fishing interests have been protected under existing marine parks – at Solitary Islands, Cape Byron and Lord Howe Island". In light of recreational spearfishing making up 1% of effort of recreational fishing in NSW waters the science indicates that the associated impact with this would be minimal on fisheries as a whole, and yet in Lord Howe Island spearfishing is prohibited in the ENTIRE marine park boundaries. There is also NO scientific evidence to suggest that spearfishing presents any threat to biodiversity or fish stocks or species in the waters of Lord Howe Island and yet a complete ban in the Lord Howe Island marine park was implemented. Clearly the science is either flawed or is influenced by outside agendas. Furthermore, from Kearney, B (2009) "To advocate reduction in fishing effort outside sanctuaries as well as stopping it completely inside sanctuaries appears nothing more than an illogical and unjustified claim to restrict fishing". This is clearly advocacy against fishing, not for conservation.

Additionally marine conservation groups such as the NPA have been fixated on the concept of "spillover" effect as a benefit derived from the presence of sanctuary grounds. The basis of this has been established from research from overseas examples. Indeed a publication from the Marine Parks Authority NSW entitled, "A Review of Benefits of Marine Protected Areas and Related Zoning Considerations", dedicates part of the paper to discussing the benefits of spill over effects. Yet in a paper by Buxton, C, Barrett, N, Haddon M, Caleb G and Edgar, G

(2006) entitled, "Evaluating the Effectiveness of Marine Protected Areas as a Fisheries Management Tool", the authors conclude that, "the sedentary nature of most of the reef associated fishes and invertebrates suggested limited (spillover) benefits to fisheries in the form of emigrants to surrounding areas".

The authors also examined lobster and abalone fisheries and concluded that for fisheries "where catch and effort are effectively limited, it was concluded that the introduction of MPA's as a fisheries management tool would be inferior to present management options" At meetings with spearfishers the Jervis Bay Marine Park Authority have cited that observed increased numbers of lobsters in the Jervis Bay Marine Park (JBMP) indicate that sanctuaries have worked. There is no reference to the fact that in NSW 90% of the habitat is in waters outside of marine parks, nor the extensive 20 year program implemented by commercial fishers to reform the fishery that has consequently lead to an increasing biomass without the need for sanctuaries to be applied. The increasing biomass of rock lobster in NSW waters can be demonstrated through scientific papers published by NSW DPI, and used by the NSW Rock Lobster Total Allowable Catch Committee (TACC) to set the annual allowable rock lobster quota for the commercial fishery.

In a unique exercise in 2005, the Federal Department of Environment and Heritage commissioned a risk assessment of the effect of fishing on the then proposed protected area in south-east marine region. The study found that recreational fishing had zero or negligible impact on the marine environment (*"Fishing Risk Assessment for the Development of a Representative System of Marine Protected Areas in the South-east Marine Region" Report of the Technical Working Group, October 2005*).

It is also noted by the USFA that groups such as NPA continue to quote minimum needs for 20% of all waters in NSW as demonstrated through the NPA document- "Torn Blue Fringe". As quoted in Emeritus Prof Robert Kearney's response to the Torn Blue Fringe, Kearney states, "The Torn Blue Fringe (Winn 2008) is written from the perspective of an advocate for more marine parks and as such it misrepresents or selectively ignores much of the scientific and policy literature on the needs for marine conservation and marine parks in NSW. By so doing it actually draws attention to the failure by the NSW Marine Parks Authority to cost-effectively address the properly identified threats. The overestimation of the impacts of fishing and the associated advocacy for further restriction on fishing appears to have been used to create a distraction from identifying and managing the real threats to NSW marine ecosystems, fisheries resources and biodiversity. The USFA agrees with the report prepared by Emeritus Professor Kearney, and supports the comments that he has drawn that the report, and subsequently groups such as NPA, have selectively drawn on studies whilst ignoring others that balance and the green groups continue to focus on fishing effort and not real key threatening processes that need to be addressed. Fishing practices are already managed through DI&I, and whilst there is always room for continuous improvement, the USFA believes that the management of fisheries based activities should be the sole responsibility of DI&I, and not a group of competing government departments.

The USFA also notes with interest that during the public consultation phase for the Jervis Bay Marine Park that Lynch (2006) refers to conservation groups referring to a minimum of both 20% by total and by each habitat type. The USFA draws the committee's attention to the impacts on the 20% by both type and total in terms of spearfishing. It has previously been noted in our submission that spearfishing comprises one percent (1%) of recreational effort and take in NSW waters.

Spearfishing, by law is only allowed by breath hold, and thus there are physiological limits on the depths where spearfishing can safely occur. The removal of 20% of the shallow to intermediate reefs, represents a significant loss to spearfishers as the shallow water reef area accessible may only represent 5% of the entire Marine Park area, yet as can or has been demonstrated clearly at Jervis Bay, Byron Bay or Lord Howe Island, anywhere up to 100% of the available reef is restricted from spearfishing. The science behind this is non-existent, as spearfishing has not been listed as a key threatening process to the biodiversity, and yet the enforced restriction remains. There is no science that indicates that spearfishing alone has led to the significant reduction in any fish species. It is also viewed by spearfishers that the abovementioned marine park lock outs represent unjustified and virtual ban on spearfishing in those areas when in fact spearfishing is widely viewed by credible marine scientists as being the most conservative and sustainable form of fishing.

It should also be noted that at Jervis Bay essentially the entire southern headland has been restricted by shore based spearfishing due to the Booderee National Park preventing the carrying of spear guns through the national park. On the northern headland the majority of land based access is restricted by the Navy. The proposal in the current review of the Jervis Bay Marine Park to have a habitat restriction zone that will include rock fishing but ban spearfishing either from a boat or shore along a strip from Steamers Head to Moes Rock will have a serious and deleterious impact on spearfishers, and is once again being based with no scientific argument. Instead a counter argument could be presented that by forcing spearfishers into progressively smaller areas that this will have a more serious impact on the biomass as the pressures are being increased (into smaller areas), and the spillover effect is not being actually realised.

In very few circumstances there is limited evidence that spearfishing may have been a contributing factor for the decline in a species of fish. In NSW the committee should note that there is evidence to support the claims that the USFA has lobbied strongly and been at the forefront for the protection of a number of fish species that have subsequently received protection over the past four (4) decades. These species include; Grey Nurse Sharks, Estuary Cod, Eastern Blue Devil Fish (recognised as a living jewel by the USFA in the late 1960's and subsequently protected) and Blue Fish.

Byron Bay represents a classic case in point where almost all available reef areas to shore based spearfishers have been removed, with only small isolated pockets of headland being available. These headlands drop immediately onto sand substrate, and can only be fished in the calmest of conditions with limited success even by those with the ability to do so. The only significant location within Byron Bay for spearfishers with shallow water reef accessible for shore diving was at Cocked Hat Rocks (known as Broken Head). The current habitat protection zone- between this reef and the shore is a shallow sand strip, dominated by current. There is no doubt in the mind of the USFA that the actions of a single spearfisher at Broken Head, which was at the time documented through local papers, has influenced the decision making process into which areas were allowable for spearfishers across the entire marine park. This again indicates that outside factors, away from good science have been and are used to inappropriately influence the decision making process.

During a radio debate in 2008 on the Hi-Tide broadcast, a USFA representative asked the NPA representative if the NPA supported a push by the Nature Conservation Council for 50% of ALL waters being locked up as sanctuary zones in NSW. This was confirmed by the NPA representative, who stated it was required as science indicated that this level of protection was required in order to protect the oceans and its marine life and was based on scientific studies. The NPA representative and NCC have pushed the view that fishing activities were destroying the ocean environment and fish stocks, and this level of protection was required. The USFA believes there is no scientific evidence to suggest that spearfishing should be restricted by this extent, if at all, yet the NPA and associated groups still push for a minimum 50% protection (lock out).

It is noted by the USFA that across the marine parks in NSW, spearfishing is more restricted than any other fishing activity but the science cannot be produced to support these claims. Indeed sanctuary zones for spearfishing start at 20% and end at 100% in the case of Lord Howe Island, where the public consultation overwhelmingly supported spearfishing remaining in habitat protection zones.

For the reasons outlined above, the USFA refutes the claims that good science supports areas being locked up as sanctuary zones, and argues that other factors are being used to justify fishing closures that are neither warranted nor necessary when other controls could be equally or better utilised

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