



Submission to Marine Estate Management Authority
regarding:

Marine park proposal for the Hawkesbury Shelf Marine Bioregion

by
The Underwater Research Group of NSW
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About URG

URG is able to offer a unique perspective on the current state of biodiversity in the bioregion. URG members spend hundreds of hours underwater gathering extensive scientific data on abundance and species richness in the bioregion. Our understanding of reefs across the bioregion has been developed as part of a range of citizen science programs including the global Reef Life Survey (RLS) program, monthly underwater clean-ups and weedy seadragon monitoring.

The marine park proposal

URG **supports the original marine park proposal** as described at the beginning of the consultation period, but is **opposed to the revised proposal outlined** by Minister Blair on 18 September 2018.

URG cannot support a marine park that does not have any new no-take sanctuary zones. The weight of scientific evidence strongly supports the need for substantial sanctuary zones in an effective marine park. It also highlights that partial protection has no measurable benefit and is therefore equivalent to providing no protection at all. Published research highlights that most of the existing aquatic reserves in the bioregion are ineffective due to small size, poor location and being open to fishing, despite being in place for several decades.

A marine park without new no-take sanctuary zones will not stop the decline in biodiversity and biomass. The new proposal is merely an extension of fisheries management. Marine parks are primarily for the conservation of biodiversity, which cannot be achieved by fisheries management alone. Marine sanctuary zones build resilience to climate change and are an essential part of the precautionary principle in marine ecosystems.

Misinformation has dominated the public debate – and gone unchallenged

URG are very disappointed that DPI did not make a serious effort to educate the public about the need for a marine park, or at least formally correct misinformation that appeared in the public arena soon after the proposal was released. Instead, DPI simply focussed on collecting feedback about the plan.

Examples of misinformation include:

- the Sunday Telegraph publishing the map of proposed sites, but re-labelling all of them (including conservation and special purpose zones) as “Sanctuary” to imply they are all “lock outs”,
- a map produced by fishing groups that placed large red crosses on all proposed sites, much larger than true scale, once again including conservation and special purpose zones, so that all of Sydney appeared to be “locked out”, and
- a map of the Bronte proposed sanctuary zone showing eight “major stormwater outlets” inside the zone.

The threat summary downplays the threat of fishing

Many opponents of the marine park proposal have claimed that the biggest threats to biodiversity and biomass are water pollution and commercial fishing. Even Minister Blair stated numerous times that pollution is the biggest threat, which is not what was stated in the original TARA report (published in 2015). We believe this misinformation was the result of the threat summary table in part 1 of the proposal.

The threat summary ranks recreational fishing as the 18th priority, which is very misleading for two reasons:

1. Fishing is split into eight categories (such as “recreational fishing by boat – line and trap”), which masks the overall impact of fishing. The combined effect of all fishing, or even the total for recreational and commercial fishing, would be much higher.
2. The ranking is based on risks and threats to the **whole bioregion**, which covers areas that aren't related to the waters of the proposed sanctuaries. For example, 50% of the TARA threats and risks are for estuary waters whereas the proposed sanctuaries are mostly categorised as “coastal and ocean” – so that heavily skews the results. Further, for the 50% of threats that apply to coastal and ocean areas, there are 10 categories (ocean water quality, beaches, shallow soft sediment, deep soft sediment, rocky shores, shallow reefs, deep reefs, pelagic assemblages, species threatened under FMA, species protected under TSA). It appears only four or five of these are related to the proposed sanctuary areas (shallow reefs, pelagic assemblages, species threatened under FMA,

species protected under TSA). When focussing on those four or five categories, recreational fishing is one of the highest risks.

The threat summary appears to present threats to all habitats and assemblages. Pollution, being pervasive throughout the environment, has therefore scored highly, but fishing dominates the threat in some assemblages and habitats more than others. For example, fishing is not a threat in saltmarsh, mangroves or planktonic assemblages – but it is the largest threat to fish assemblages in coastal subtidal. Using marine sanctuary zones to address the latter is therefore entirely justified, but is not understood by anyone who only reads the summary table. When site-level threats are documented, as they are in part 2, fishing dominates. We believe the inclusion of the summary table has led to much of the misinformation in the public discourse, and so should be retracted.

Recreational fishing is equivalent to commercial fishing in terms of tonnes of animals extracted (West et al. 2015). Furthermore, recreational fishing is the largest source of subtidal plastic debris (Smith & Edgar 2014). Yet the NSW government has not made any attempt that we can see to correct the misinformation that recreational fishing is much less of a threat than commercial fishing.

When the public believes this kind of misinformation, it is not surprising that they feel outraged about new restrictions being placed on recreational fishing. This is a fundamental issue which needs to be addressed in order to get more widespread acceptance of new sanctuary zones.

We need a government-led education campaign

DPI or OEH should embark on a long-term education campaign to explain why a marine park is needed and how the public could benefit from one. The campaign should include:

- holding numerous local seminars throughout the bioregion
- publishing concise plain-English information online, as has been created for South Australian marine parks
- providing TARA analysis for specific habitats and assemblages.

URG extends an offer to assist in the education campaign

URG would consider providing input on the topics to be covered or materials to be published. URG members would also consider speaking at events organised by DPI. URG has members who are deeply familiar with scientific research relevant to the bioregion and marine parks in general including regular contributors to Reef Life Survey and marine science.

URG believes the education campaign should at least cover:

- the threats specifically affecting the sub-tidal coastal marine environment
- the overall impact of recreational fishing in the bioregion

- the combined impact of multiple stressors on the ecosystem
- the threats and risks addressed by a marine park
- the positive impacts of sanctuary zones (bigger fish, larvae spillover effect, greater biodiversity, resilience to stressors, keeping urchins under control etc.)
- design criteria for a successful marine park
- DPI initiatives being taken to address other threats, such as pollution, in the other nine initiatives in the strategy.

A good process which became flawed

As a coastal nation, with 85% of people living within 50 km of the coast, we must stand firm to conserve our blue backyard. The bullying and misinformation of a minority has been not only tolerated by the NSW government, but rewarded in Minister Blair's backflip. People who acted in good faith, preparing submissions within the time frame of the consultation period, have been betrayed by this announcement.

We have participated in the multi-year process, in good faith, attending most workshops, making several submissions at the various consultation stages, and now making this submission. It is incumbent on this government to follow good standards for public consultation, namely:

- consultation is at a formative stage – i.e. the decision needs to be open, not already decided upon
- provision of sufficient reason and material – i.e. the documentation needs to be sufficient to evaluate and make an intelligent response to the proposal.
- adequate time to respond
- conscientious taking to account of the product of consultation.

We believe the Minister's announcement this week violates some or all of these. It is clear that the decision to have no sanctuaries has been taken before the end of the consultation period. The material on the web site is now incorrect – it still states that there will be sanctuary zones – so the material is inadequate. The Minister's announcement was made with just one week to go – an inadequate time to respond. Finally, how can the government properly take into account submissions such as ours when a decision has already been made?

The outspoken minority is emboldened; they are now targeting opening up sanctuary zones to fishing in other marine parks. This must not be tolerated by the NSW government, who must be the voice of truth, backed by science. Fish care nothing for Facebook, sensationalist media or politics – they will only respond to a well-managed conservation effort that provides a healthy marine environment. On this the science is clear – this requires both fisheries management and marine sanctuaries.

Fisheries Management can't do it all

Another claim being made in the public discourse is that fisheries management can do it all – that there is no need for sanctuary zones. This is not supported in the literature (e.g. Bohnsack et al. 2000) nor does it acknowledge the limitations of size and bag limits, some of which we list below:

- As Sydney's population grows, per person bag limits will be multiplied by increasing numbers of fishers.
- Size limits do not recognise the different sizes at maturity of sexually dimorphic species such as flathead.
- Fishing controls are only as good as the compliance that enforces them, and enforcement in Sydney is insufficient. For example for the worst species – snapper - 97% of fish caught and kept are undersize (Ghosn 2010). In 2016-17, over 48,000 fish and invertebrates were seized by DPI in NSW – which we believe to be just the tip of the iceberg <https://www.dpi.nsw.gov.au/fishing/compliance/fisheries-compliance-enforcement>.
- Current size limits do not protect the largest, most fecund individuals. We do not believe “slot” limits (where there are minimum and maximum sizes) can address this, as fishing pressure is so high that very few if any individuals will survive to reach the larger limit without sanctuary zones.
- Fisheries management focuses on a small number of fished species. It does not adequately address maintaining the ecological roles of species, indirect effects such as trophic cascades, monitoring biodiversity or habitat impacts other than those that impact fisheries. It does not consider the health of the great majority of fish, invertebrate and plant species that may be declining, threatened or disappearing entirely from the bioregion.

We believe we need both effective sanctuary zones (managed under a marine park) and effective, sustainable fisheries management outside sanctuary zones.

Final comments

The absurdity of the argument that we can do everything with fisheries management, without sanctuary zones, is demonstrated by drawing the equivalent on land - that all of our natural areas should be managed as an agricultural resource. That National Parks should be 100% open to hunting. That it's ok to shoot and trap native animals, so long as we don't take too many per person, and we only keep the big ones. That the “rights” of people to hunt should be paramount, and we shouldn't consider the rights of people who want to experience nature without human extractive pressures. That National Parks have no intrinsic value other than to provide sport and food. Clearly an absurdity. Even if this could be done sustainably – which it couldn't – many Australians would argue that we shouldn't. We recognise the fragility of these ecosystems, and that human extractive and primary industry activities have significant impact. We recognise the intrinsic value of nature – that living things should have a place of refuge. As ecologists, we recognise this too – and the fundamental relationships that drive both marine and terrestrial systems are similar – predation, competition, threats. We find the whole “fisheries can do it all” argument incredibly selfish and misguided. Once again, we argue that we need both – we need to have areas that are managed as a fishery, sustainably, AND we need to have areas of sanctuary. On land and at sea

A future marine park plan should aim to meet the international standard for protection of both biodiversity and ecosystem services. At least 30% of each marine habitat should be protected from extractive practices. This 30% target, agreed at the World Parks Congress in

Sydney in 2015 was also adopted by the IUCN Members Assembly at the World Conservation Congress (Hawaii 2016), which adopted the motion that:

“State and Government Agency Members designate and implement at least 30% of each marine habitat in a network of highly protected MPAs” with the “ultimate aim of creating a fully sustainable ocean at least 30% of which has no extractive activities”.

The great majority of people in NSW who want effective marine conservation, for present and future generations, deserve no less.