OCEANWATCH AUSTRALIA

HEALTHY CATCHMENTS HEALTHY OCEANS

Monday 14th November 2016

Committee Secretary
Senate Standing Committees on Environment and Communications
PO Box 6100
Parliament House
Canberra ACT 2600

RE: Inquiry into the impact of climate change in the marine environment

Dear Committee Secretary,

We thank the Committee for the opportunity for OceanWatch Australia to make this submission to the inquiry into the impact of climate change in the marine environment including the effect on fish stocks, marine biodiversity and ecosystems and the adequacy of protections for marine biodiversity and biosecurity measures and monitoring systems given current and projected climate change impacts.

Background

OceanWatch Australia is a not for profit and is listed on the Register of Environmental Organisations and the Australian Charities and Not-for-profit Commission.

Since 1989, we have worked to advance environmental, economic and social sustainability in the Australian fishing and aquaculture industry, and promote awareness and stewardship within other parts of the community that use and value the marine environment.

In 2014 the Australian Government recognised OceanWatch as the national organisation responsible for the delivery of its marine Natural Resource Management (Marine NRM) related programs. It is through this Marine NRM lens that OceanWatch frame's it's response to the Senate Inquiry's impacts of climate change in the marine environment, and through our vision for a healthy, productive, valued and responsibly used marine environment.

OceanWatch is a small, flexible, responsive organisation with a national influence. We are not a political lobby group and we do not take on the responsibilities of a seafood industry peak body, but work through trusting partnership with industry and community, to protect the marine environment from on-water, and terrestrial impacts, which underpins marine productivity.

As Australia's only Marine NRM, with a national scope - we acknowledge the vital role Australia has in maintaining its exclusive economic zone, which is the third largest in the world, and covers about one and a half times the size of Australia's land mass. Its diverse marine seascapes reflect unique biodiversity values and deliver a valuable flow of ecosystem goods and services, including seafood production, and community amenity.

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SEANET SMARTER FISHING FOR INDUSTRY
TIDE TO TABLE RESTORING AQUATIC HABITAT

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Until the formation of the Marine NRM, management of marine primary resources had two pillars;

- Fisheries Management – underpinned by compliance and regulatory instruments
- Marine Protected Area Management – utilising the precautionary approach

With the arrival of Marine NRM, responsible use by stakeholders has become the third pillar. Its key role is to influence the behaviour of those who work on water, or who impact the marine environment from land, leading to voluntary change of attitudes, behaviour and practice.

OceanWatch role

The role of OceanWatch as the Marine NRM is to deliver practical solutions to benefit the marine environment, the seafood industry and the community.

OceanWatch recognises that the key challenges facing Australia's marine environment (and the focus of our work), include;

- land based pollution impacting on water quality
- alterations to physical habitats
- biosecurity
- marine based pollution, plastic debris, oil spills
- oil and gas exploration and extraction
- dredging, ocean dumping
- impact of climate change - we recognise that climate change can have an exponential effect on the above challenges

We would like to make the following responses to the Terms of Reference

a) recent and projected changes in ocean temperatures, currents and chemistry associated with climate change;

- We note that considerable world-class science has been conducted on recent and projected changes associated with climate change
- We are aware and supportive of submissions from FRDC and other fishing & aquaculture research providers on this topic
- We are concerned that extension of the recent and projected changes in ocean temperatures, currents and chemistry associated with climate change undertaken to date is limited, and therefore adoption measures and planning by the fishing and aquaculture sector is therefore unlikely.
- This lack of transference of knowledge from the science community to the fishing and aquaculture sector is linked to;
    - the reduction in extension capacity within the sector. Whilst the agriculture sector has seen significant investment in extension through the NRM regions around Australia, by contrast, Marine NRM extension capacity has been reduced by 60% since 2013

- the lack of understanding that extension is an expertise. Whilst scientists and researchers have some capacity to extend knowledge to the fishing and aquaculture sector, it is not their primary focus, and not their area of expertise

b) recent and projected changes in fish stocks, marine biodiversity and marine ecosystems associated with climate change;

- We note that considerable research effort by management agencies around Australia has been undertaken to understand recent and projected changes in fish stocks, biodiversity and ecosystems associated with climate change.
- Much of our past programmes (Tide to Table, TAngler Bin, SeaNet, Fishing for Waste) involved extension to industry and community of the importance of mitigation measures from actions and activities impacting unintentionally on fish stocks, marine biodiversity and ecosystems.
- Feedback from our extension work with industry and community (1989-2013) would indicate considerable interest from coastal communities in understanding localised impacts.
- There are significant implications from early research to fish species that may need to move upstream or into new habitats that are currently impeded or unsuitable. Networks such as the NSW Fish Habitat Partnership and the Culvert Research and Development Initiative have identified the need to build resilience in stock through a greater emphasis on habitat repair or refine eco engineering techniques to increase fish movement. Both groups run voluntary with no or very small budgets.
- The resilience of fish species to be able to cope with change is intertwined with the ability for habitat to provide ecosystem services. Regional NRM activity and applied research in the habitat space, both underwater as well as riverine indicates considerable challenges caused by ongoing poor farming practices. Without even a base level of mandatory farming practice nationally, restoring fish habitat is an uphill battle unlikely to be won. New habitats are better suited to new species, often exotic and the ability of NRM managers to restore environments is projected to be lowered to local environments offering some type of ecosystem service.

c) recent and projected changes in marine pest and diseases associated with climate change;

- We note that marine pests science indicates that the potential for marine pest introduction and translocation from fishing and aquaculture sector is high, and the impact from recreational boating and on-water activities is also of concern.
- OceanWatch has been involved in marine pest management and communication since 1989 following invasion of black stripe mussels into Darwin Harbour in 1999. Since then we have had representation on the National Introduced Marine Pest Coordination Group, as the fishing industry's environmental representative.
- We played a key role in the creation of the 'National System', working as the trusted conduit between NIMPCG and 30+ seafood industry sector groups around Australia in the development of the nationally agreed fishing vessel guidelines.
- We also devised and implemented the communication roll-out to the seafood industry through our environmental extension program – SeaNet.
- We have continued our participation at a national level, through involvement with the Marine Pest Sectoral Committee, and following the split of partner groups, to the membership of the MPSC Industry consultation group/stakeholder group.
- The trusted connections OceanWatch has with the fishing and aquaculture sectors, and with coastal communities would allow further investment in marine NRM to increase the benefit of mitigation actions to reduce the risk of marine pests from climate change impacts.

d) the impact of these changes on commercial fishing and aquaculture, including associated business activity and employment;

- OceanWatch has worked closely with a number of fishing and aquaculture industries which face impacts from climate change. For example, the Oyster industry;
    - has a significant amount of fixed height infrastructure in the water, which will need adjustment under different seal-level scenarios
    - change in phytoplankton species, distribution and abundance leading increased occurrence of Harmful Algal Blooms, which has the potential to shut down production for extended periods
    - increasing ocean acidification will lead to thinning of walls of shellfish
    - increased storm intensity will see greater damage to cultivation gear and coastal infrastructure (e.g. oyster sheds, wharfs, marinas, etc.)
- Our Oyster EMS work has been progressing since 1994, where farmers receive assistance to work as an estuary collective on an environmental management system. This helps businesses identify internal and external issues, including climate change impacts.
- Our current program, Master Fisherman is funded through the National Landcare Program – Regional Delivery. Master Fisherman trains fishermen in NSW in their fishery specific code of practice, which aims to reduce impacts on the marine environment through the better practice of the participants.
- A range of impacts on the fishing and aquaculture sector has been researched through the NCCARF (FRDC) funded programme. OceanWatch was the extension deliver partner on a number of these project outcomes, including; Building industry and community knowledge (FRDC 2011/503); and A climate change adaptation blueprint for coastal regional communities (FRDC 2010/542), where we were the joint project extension team (please see attached flyers). This experience led us to the understanding that extension of climate change knowledge to the fishing and aquaculture sector was wanted, and that adaptation assistance would be needed and requested.

e) the impact of these changes on recreational fishing;

- We note a considerable public investment in research has been undertaken in climate change impacts on the marine environment, but limited extension to the recreational sector and community has been undertaken

f) the adequacy of current quota-setting and access rights provisions and processes given current and projected climate change impacts;

N/A – OceanWatch Marine NRM does not work on issues related to access

g) the adequacy of current and proposed marine biodiversity protections given current and projected climate change impacts;

N/A – OceanWatch Marine NRM does not work on issues related to access

h) the adequacy of biosecurity measures and monitoring systems given current and projected climate change impacts; and any other related matters.

- Biosecurity monitoring capabilities are currently inadequate due to state funding priorities
- There are a number of community monitoring projects occurring in an ad hoc fashion throughout Australia but these are not coordinated nationally and built on short term projects not program based
- There is a lack of seafood industry involvement in monitoring activities due to sector capacity

Additional comments

- This enquiry has the defined the boundary of marine species and waters however it must be recognised that catchment health plays an inextricable link in marine habitat health. Climate change affects water availability, quality and the routes of fish species that utilise fresh waters during their lifecycle such as Australian Bass and Mullet as well as having a direct impact on benthic species such as shellfish.
- Through our stakeholder engagement, OceanWatch has recognised the continued need for a Marine NRM trusted extension network to work in partnership with stakeholders on key topics impacting the marine environment.
- The development of the first national Marine NRM Plan identifies the impacts of climate change and the impacts of marine pests as a key threat to the marine environment, and also identifies the need for a national marine NRM network to coordinate national priorities and actions on the ground through the regional NRM organisations
- The Marine NRM network through the work of OceanWatch is already established, and through the current modest National Landcare Program investment, is increasing momentum.
- Further investment in this trusted resource is required to enable vital marine science outcomes to reach practitioners on the ground, and on the back of fishing vessels.
- With a strong track record of delivery on the ground and on the back of fishing vessels, OceanWatch has been contributing to building knowledge and understanding of community and industry on climate change impacts, and options for adaptation.

We thank you for the opportunity to submit our comments.

Please do not hesitate to contact us 02 9660 2262 if you require any further information.

Yours faithfully,

Lowri Pryce
Executive Officer
OceanWatch Australia