Nature Conservation Council The voice for nature in NSW

NATIONAL PARKS ASSOCIATION OF NSW protecting nature through community action

THE WILDERNESS SOCIETY

Australian Marine Conservation Society

Bob Creese
Director Fisheries Research
Department of Primary Industries
Via email: contact.us@marine.nsw.gov.au

28 August, 2015

RE: Submission in to Hawkesbury Shelf Marine Bioregion Assessment

Dear Mr Creese,

The Nature Conservation Council of New South Wales (NCC), National Parks Association of New South Wales (NPA), the Australian Marine Conservation Society (AMCS) and The Wilderness Society NSW (TWS NSW) welcome the opportunity to contribute to the Hawkesbury Shelf Marine Bioregion Assessment (the Assessment).

NCC is the peak environment organisation in NSW, representing over 150 community environment groups across the state; NPA seeks to protect, connect and restore the integrity and diversity of natural systems in NSW and beyond, through national parks, marine sanctuaries and other means; AMCS is Australia's only national charity dedicated exclusively to the conservation and protection of our oceans and TWS is one of Australia's largest community based environmental advocacy organisations. Our groups represent over 100,000 supporters from across NSW, and have been at the forefront of advocacy for the marine environment grounded in science for over 50 years.

We welcome your commitment to increase protection for the Hawkesbury Shelf bioregion. The scientific audit in 2012 highlighted that the Hawkesbury Shelf marine bioregion is inadequately protected and is the only region wholly within NSW that is not represented in our marine parks system. The current assessment process presents a key opportunity to address this oversight.

This submission will outline why we believe a marine park is the best way to conserve both the environmental and social values of the region. We will also raise some concerns we have with the Hawkesbury Shelf Marine Region Assessment project, and will identify some specific locations that have to date been overlooked by the Hawkesbury Shelf Marine Region Assessment project.

Our organisations recommend that the Government commit to implementing a Comprehensive, Adequate and Representative (CAR) zoning design in a large marine park, with an adequate proportion of sanctuary zones, by the end of this term of Parliament. To this end, we recommend that the final outcome of the Hawkesbury Shelf Marine Bioregion Assessment process be that the

Government commits to a community based, science driven process to implement a CAR marine park for the region.

Why we need a marine park for the Hawkesbury Shelf region

The Hawkesbury Shelf bioregion has long been identified as being under protected. Most notably the *Report of the Independent Scientific Audit of Marine Parks in New South Wales*[1] released in 2012 recommended:

> *"The Audit Panel is of the further opinion that the current system of marine parks as established in NSW be maintained and mechanisms be found for enhancing the protection of biodiversity in the identified gaps, namely within the Hawkesbury and Twofold Shelf marine bioregions."*

Further, the *Broadscale Biodiversity Assessment of the Hawkesbury Shelf Marine Bioregion*[2] published in 2005 alludes to the fact that 10 years ago the Government was considering establishing a marine park for the region. It states:

> *"The important areas identified in this assessment and the group of existing MPAs can now be used to develop MPA proposals for the Hawkesbury Shelf bioregion. These MPA proposals should aim to represent geographic variation in biodiversity throughout the bioregions, and assist in fulfilling the principles of comprehensiveness, adequacy, and representativeness."*

This is an idea whose time has now well and truly come.

The gazettal of a new Sydney Marine Park should be an integral part of the Government's acceptance of the goal set by the IUCN and the World Commission on Protected Areas at the 2014 Sydney World Parks Congress to:

> *"urgently increase the Ocean Area that is effectively and equitably managed in ecologically representative and well systems networks of MPAs or other effective conservation measures by 2030."*

Currently, only 6.7% of NSW's marine waters are adequately conserved as full no-take marine sanctuaries. Less than 1% of the Hawkesbury bioregion has protection equivalent to sanctuary zone. We have a long way to go to achieve our international goals, however a CAR marine park is a vital step in the right direction.

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[1] Beeton RJS, Buxton CD, Cutbush GC, Fairweather PG, Johnston EL & Ryan R (2012) Report of the Independent Scientific Audit of Marine Parks in New South Wales. NSW Department of Primary Industries and

[2] Breen, D.A. Avery, R.P. and Otway N.M. (2005). Broadscale biodiversity assessment of marine protected areas in the Hawkesbury Shelf marine bioregion. Final report for the NSW Marine Parks Authority. Pp. 2

Evidence from other communities with marine parks on their doorstep shows that they are overwhelming popular amongst the local community. Government commissioned polling[3] from the Solitary Islands Marine Park found 82% of resident recreational fishers supported the marine park. 73% of residents believed it was important to allow future generations to enjoy the marine park, and 80% are in favour of sanctuary zones. This survey was conducted in 2008 and it can be expected that support for the marine park has increased even further since then.

The scientific rationale for establishing CAR marine parks is well established in scientific literature and will not be covered in depth in our submission. The Australian Marine Science Association position statement[4] provides a useful overview of the scientific values of marine parks. Appendix 1 includes a thorough literature review of more than 100 important scientific papers on marine parks.

Concerns with the Hawkesbury Shelf Marine Region Assessment project

Whilst we are very supportive of the Assessment we are concerned with the very small number of sites that were pre-identified by the Government. The fact that key sites like Cabbage Tree Bay were not included in the pre-identified sites raises concerns regarding the thoroughness of the process.

We also wish to register our concern regarding the increasing reliance on addressing the threats in the marine environment. Threat and Risk assessment is not an adequate alternative to the globally-recognised criteria of Comprehensive, Adequate and Representative in the design phase of marine protected areas. Any move away from using CAR principles to guide the development of a marine park for the region will be heavily criticised by both the marine science and conservation sectors as being inadequate to address the needs of the region and its marine life.

Assessment of the Hawkesbury Shelf region

The Hawkesbury shelf region is an iconic location as well as a biodiversity hotspot. Sydney Harbour is well known to have a greater diversity of fish species compared to the entire United Kingdom, and beyond the Harbour, the estuaries, beaches, lakes and lagoons, and open water of the region are truly special.

We strongly encourage the Government to commit to a comprehensive scientific assessment to consider the environmental values of the region. There is already considerable existing work on this topic, including the aforementioned broadscale biodiversity assessment of marine protected areas

3 McGregor Tan Research, 2008, Solitary Islands Marine Park Community Survey Final Report, available at: http://www.mpa.nsw.gov.au/pdf/SIMP-Community-survey-2008.pdf

[4] Australian Marine Sciences Association, 2012, Position Statement on Marine Protected Areas, available at: https://www.amsa.asn.au/sites/default/files/AMSA_MPA_PositionStatement_June2012_final.pdf

in the Hawkesbury Shelf marine bioregion, completed in 2005, and long term data sets such as Reef Life Survey.

Two recent Reef Life Survey-based studies in Sydney's waters, conducted by the Sydney Institute of Marine Science (SIMS) and the Coastal and Marine Ecosystems Group (CMEG) at the University of Sydney, found that sanctuary-level marine protection is having a significant impact on fish abundance and species richness, please see Appendix 2. This indicates the potential for a large marine park, with an appropriate proportion and location of sanctuary zones, to generate social, economic and environmental value for the region.

Attached is a list of sites within the bioregion which have outstanding natural values and should be considered a high priority for protection (Appendix 3). Please note, this is not an exhaustive list and we reserve the right to identify additional areas to put forward for greater protection in the future.

In addition to the biodiversity values, any design process must, take into account all social values including appreciation of nature, visual aesthetics, exercise and health, learning (particularly children), bequest value and intergenerational equity, that are derived from the marine environment. The potential for conflict between users, particularly extractive verses non-extractive users, must be considered in the allocation of fair proportions of the bioregion across usage types.

Right now the very high proportion (over 99%) which is open to extractive users is clearly unfair to the large proportion of non-extractive users who want to experience nature free of extractive human impacts. The experiences of user groups such as snorkelers, divers and swimmers can be negatively affected by extractive activities with their resulting depletion of biomass, loss of diversity and accumulation of debris. We expect that the design process will take this into account, as an overlay of CAR principles.

Thank you for this opportunity to comment on the future of the Hawkesbury Shelf marine region. We have significant expertise in marine conservation and welcome this opportunity to contribute to the marine park process. We look forward to engaging with the Department on this important issue. We recommend that the final outcome of the Hawkesbury Shelf Marine Bioregion Assessment process be that the Government commits to a community based, science driven process to implement a CAR marine park for the region.

Please don't hesitate to contact me on 02 9516 1488 or dbarham@nature.org.au to discuss any of the issues raised in this submission.

Yours sincerely,

Daisy Barham
Campaigns Director
Nature Conservation Council of NSW

On behalf of:
Australian Marine Conservation Society
National Parks Association of NSW
Nature Conservation Council of NSW
The Wilderness Society

CC: The Hon Mark Speakman, MP, Minister for the Environment, Minister for Heritage and Assistant Minister for Planning; **The Hon. Niall Blair, MLC,** Minister for Primary Industries, Minister for Lands and Water

Appendix 1: Reviewing the benefits of marine sanctuaries

[Please see separate attachment]

Appendix 2:
Media Release – 24 August 2015

Sydney reef study finds partial protection zones failing to protect fish

A 2015 survey of marine life on Sydney's rocky reefs has revealed that partially protected aquatic reserves are failing to protect fish. Fully protected no-take zones, like the reserve at Cabbage Tree Bay in Manly, had a greater abundance and diversity of large fish. The survey found that aquatic reserves with only partial protection were no better than unprotected areas in terms of both the number of fish species and number of large fish (sized 25cm or more).

In March this year, 12 volunteers including several marine scientists conducted extensive marine life surveys in the Sydney region using the Eureka prize winning Reef Life Survey method. The divers completed over 40 surveys across 25 sites sponsored by Sydney Institute of Marine Science (SIMS) and managed by Underwater Research Group (URG) of NSW.

"The survey confirmed that the Sydney region has incredibly high fish biodiversity," Professor Emma Johnston, Director of the Sydney Harbour Research Program, said.

"Almost 600 species of fish have been recorded from Sydney Harbour alone, which is more than for the whole UK coastline." Two separate analyses of the survey results by the Sydney Institute of Marine Science (SIMS) and the Coastal and Marine Ecosystems Group (CMEG) at the University of Sydney found interesting trends in the data. CMEG looked at the difference in overall fish diversity and abundance of targeted fish across fully protected, partially protected and unprotected areas in the nearshore waters of the Hawkesbury shelf bioregion.

"It's not only large fish that are affected by fishing." explained Dr Renata Ferrari from Sydney University, "Fully protected reserves had 50% more species than partially or unprotected sites. The difference was striking when we looked at the abundance of fish targeted by fishers, we found twice as many inside fully protected areas as compared to both partially and unprotected sites, especially for species like yellow-tail scad, luderick and red morwong. "

"Interestingly, the number and size of blue gropers, a species partially protected regardless of where it is found, was not different across levels of protection, suggesting that directly protecting a species can also be effective," Dr. Ferrari added.

"The only reserve near Sydney that has full protection from all forms of fishing had seven times the abundance of large fish and three times the number of large fish species compared to unprotected or partially protected areas," Professor Johnston said.

"Large fish are great to look at but they are also important for ecosystem health. With so few fully protected areas it is difficult to draw strong conclusions for the Sydney region but global assessments have found that no-take sanctuary zones are an effective method of increasing the abundance of large fish" Professor Johnston said.

"This new data suggests that to increase fish species richness and size, more fully protected aquatic reserves should be trialled in the area."

For further comment contact:

• Professor Emma Johnston, Director of the Sydney Harbour Research Project, Sydney Institute of Marine Science on 0423 236 411
• Renata Ferrari, Postdoctoral Research Fellow Spatial and Quantitative Ecology, Coastal and Marine Ecosystems Group, School of Biological Sciences, The University of Sydney on 0425 676 050

Appendix 3: List of additional sites of value for consideration

Sites of high environmental value in the Hawkesbury Bioregion

Site	Location	Environmental Values
Hexham Swamp	Hexham	Ramsar wetlands, saltmarsh, migratory birds
Lake Macquarie	Newcastle	Seagrass, saltmarsh, juvenile fish
Tuggerah Lake	Doyalson	Wetlands, seagrass, juvenile fish
Wamberal Lagoon	Wamberal	Wetlands, migratory birds
Brisbane Water and Hawkesbury River	Broken Bay	Seagrass, mangrove, saltmarsh, juvenile fish
Bouddi Marine Extension	Bouddi	Diverse marine communities due to history of protection
Barrenjoey headland	Palm Beach	Weedy seadragons, blue groper, seagrass, Australian fur seals
Bangalley headland	Whale Beach	Encrusting corals, Port Jackson sharks, grey nurse sharks
Bungan Head	Newport	Diverse intertidal communities (IPA)
Mona Vale Headland	Mona Vale	Diverse intertidal communities (IPA)
Narrabeen Head	Narrabeen	Intertidal organisms; sea hares, anemones
Narrabeen Lagoon	Narrabeen	Intermittent estuary, seagrass, wading birds
Long Reef basin and headland	Long Reef	Grey nurse sharks, blue devil fish
Dee Why Lagoon and Headland	Dee Why	Mature intermittent estuary, wading birds, diverse intertidal communities
Freshwater headland	Freshwater	Rays, blue groper, wobbegongs
Cabbage Tree Bay	Manly	High biodiversity due to established sanctuary zone, high biomass esp. large fish, giant cuttlefish breeding site, black cod, grey nurse sharks, wobbegong aggregations, tropical species recruitment, hawksbill turtles
Shelly Beach Headland	Manly	Diverse intertidal communities

Bluefish Point	North Head	Weedy seadragons, sea fans, giant cuttlefish
The Blocks, Waterfall, Old Man's Hat	North Head	Sponge gardens, giant cuttlefish, sea fans, blue groper, tropical species recruitment
North Harbour	Manly	Seagrass, fairy penguins, green turtles, high diversity, tropical species recruitment
Fairlight	Fairlight	Green corals, turtles, blue morwong, wobbegongs
Middle Head	Mosman	Green corals, sponges
Chowder Bay	Clifton Gardens	Seahorses, anglerfish, pipefish, seagrass, tropical species recruitment
Camp Cove	Watson's Bay	Seahorses, seagrass, green corals, juvenile Port Jackson sharks, pipefish, tropical species recruitment
The Gap / Colours Reef	Watson's Bay	Soft corals, giant cuttlefish, weedy seadragons
North Bondi	Bondi	Blue devilfish, weedy seadragons, Port Jackson shark aggregation
Bronte / Coogee	Bronte Coogee	Blue groper, blue devil fish, wobbegongs, black cod, weedy seadragons
Long Bay	Long Bay	Diverse intertidal communities
Magic Point	Malabar	Grey nurse sharks, weedy seadragons
Cape Banks	La Perouse	Weedy seadragons, blue devilfish, Australian fur seals
Botany Bay (generally)	Botany Bay	Only ocean embayment in the bioregion
Bare Island	La Perouse	High biodiversity in small fish and invertebrates esp nudibranchs, weedy seadragons, Sydney pygmy pipehorse, Bare Island anglerfish
Inscription Point	Kurnell	Weedy seadragons, soft corals, diverse intertidal communities
Towra Point	Botany Bay	Seagrass, Ramsar wetland, mangrove, wading birds
Boat Harbour	Kurnell	Crayweed remnants, isolation / diverse marine communities
Shiprock to Lilli Pilli	Port Hacking	Soft corals, pineapplefish, black cod
Cabbage Tree Point /	Port Hacking	Diverse intertidal communities, fish nursery, seagrass

The Basin		
Oak Park	Cronulla	Blue groper, weedy seadragons
Lake Illawarra	Port Kembla	Wetland, seagrass, saltmarsh, black cod, wading birds, juvenile fish
Five Islands	Port Kembla	Australian fur seal colony, fairy penguins

Given the extent and complexity of the values in the above table, and the potential to overlay an entirely different set of social values based on recreational and other activities that are popular right across the Hawkesbury bioregion, significant work remains to be done.