



The Australian Marine Sciences Association (AMSA) welcomes the opportunity to provide comments to **Senate Environment and Communications References Committee on inquiry into the Middle Arm Industrial Precinct**.

The Australian Marine Sciences Association Inc. (AMSA) is Australia's peak professional body for marine scientists from all disciplines and for over 50 years has promoted all aspects of marine science in Australia. Including “dissemination of knowledge about the marine environment to the wider public.” It also has a long history of providing expert scientific advice to Federal and State/Territory governments, industry and other key marine environmental stakeholders, on a wide range of scientific and environmental issues and activities in the marine environment (including environmental impact assessments, marine pollution, Marine Parks, marine threatened species, marine biodiversity and climate change). All of our Submissions and Position Statements are publicly available on our website.

The AMSA Northern Territory Branch is based in Darwin and provides technical input, as well as providing formal submissions on a range of marine science, marine environmental, Indigenous Sea Country and marine industry-related issues. In relation to the current Middle Arm Sustainable Development Precinct (MASDP), AMSA has also provided detailed technical submissions on the Darwin and Santos Barossa Offshore Gas Project and Santos Darwin Pipeline Duplication (DPD) project.

In relation to the specific proposed MASDP referral, AMSA remains concerned at the major potential marine environmental impacts associated with the proposed MASDP – including impacts on marine megafauna (including dolphins, turtles, dugongs and sharks); fisheries (commercial and recreational); the cumulative impacts of dredging; acid sulfate soils; and the impacts of heavy metals on the food chain, food safety, public health, Indigenous harvest and Traditional Owners. In addition, the potential major climate change risks and impacts on the MASDP (particularly sea-level rise, flooding) and emissions profile of the MASDP, particularly its gas-related activities.

AMSA reaffirms its national position statement on climate change and its strong support for urgent, immediate and drastic climate action. We note and endorse the recent International Energy Agency's global call (18 May 2021) for no new fossil fuel supply projects.

To this end, AMSA strongly supports low emissions and renewable energy technology, such as green or renewable hydrogen development in the MASDP (and Northern Territory) – as currently being developed in other parts of Australia. However, as an unproven and expensive technology, AMSA strongly recommends against the establishment or public investment in any carbon capture and storage infrastructure.

Similarly, AMSA has serious concerns relating to the development of any industries in the MASDP involving petrochemicals processing (e.g. plastics production), due to their reliance and ongoing demand for oil/gas (as the primary feedstock) – and also, the ongoing and recognized threats to public health and also the major threats posed by current (and increasing) production of plastics to the world's oceans.

Significantly, AMSA strongly asserts that this type of industrial activity does not align (either in spirit or intent) with the 'environmental sustainability' principles outlined in the MASDP Program.

AMSA is concerned that the current proposed proponent-driven, SEA approach for the MASDP places great emphasis on economic development and incentives for investors (fast environmental approvals, low regulatory burden, no requirement for EIS) – but does not sufficiently prioritize the protection of Darwin Harbour's wide range of environmental, social, cultural values, uses and users. And particularly the commitments under the Darwin Harbour Strategy 2020-2025 to “*protect and enhance the natural environment of Darwin Harbour*” (DHAC 2020).

Specifically, this includes the MASDP SEA's limited consideration of the region's diverse and significant values and 'other marine uses', and also, the specific assessment and detection of

'cumulative impacts'. Including consideration of the current major gaps in marine ecosystem knowledge and also, gaps in marine assessment, monitoring and reporting efforts in Darwin Harbour.

AMSA notes that while there has been investment and considerable work undertaken (particularly over the past decade) in developing and establishing some important marine environmental baselines for Darwin Harbour, ie. water quality, sediment quality, mangroves, coastal dolphins (see Munksgaard et al. 2019), major gaps in marine ecosystem knowledge and understanding remain, which constrain and limit monitoring, risk and impact assessment – and impact detection in the harbour.

To this end, AMSA remains particularly concerned at the current MASDP SEA's adequacy and capability to detect significant anthropogenic impacts on Darwin Harbour's key values and other uses.

In our submission, AMSA highlights major issues, concerns and identifies key knowledge gaps/needs for Darwin Harbour, that need to be specifically addressed in the proposed MASDP 'strategic environmental assessment' (SEA) framework and EIS:

Design and governance of the SEA

- Independence, Accountability, Transparency
- Design of the Strategic Environmental Assessment (SEA)
- Assessment of Cumulative Impacts & Other Uses (current, projected)

Gaps in Marine Ecosystem Knowledge, Inadequate Assessment/Monitoring Tools

- *Knowledge Gaps, Monitoring/Assessment Tools*
- *Incorporation and Integration of Critical, Past Studies*
- *Low Level of Investment in Ecosystem Knowledge, Environmental Baselines, Monitoring*
- *Lack of an Adequate & Integrated Marine Monitoring/Assessment Program in Darwin Harbour*

We ask that these important concerns and knowledge needs be addressed. Particularly the need to incorporate a **Strategic Regional Environmental and Baseline Assessment (SREBA)** into the SEA for the MASDP and Darwin Harbour. AMSA highlights that the SREBA Framework for the NT provides good guidance on undertaking predevelopment, baseline regional strategic assessments. And the recent assessment of Exmouth Gulf undertaken by the WA EPA provides a comprehensive approach to assessing regional and cumulative impacts (from current and projected uses and threats).

In our submission, AMSA offers specific technical guidance to relevant government authorities and the Proponent in developing the SEA for the MASDP, including highlighting specific issues and challenges relevant to Darwin Harbour:

Specifically, addressing current major knowledge gaps and the needs. Including the urgent need to invest and improve marine monitoring in Darwin Harbour (including the IMMRP), particularly the lack of biological and ecological monitoring and integrated ecosystem modelling to enable the assessment of ecosystem condition and health; and the need for major investment in ecosystem monitoring/reporting and critical baseline research and robust baseline monitoring in Darwin Harbour (particularly for marine megafauna). AMSA also highlights the need for independent, expert-based assessments; the significant opportunities for government-industry-academic collaboration and research partnerships, and the potential to learn major lessons from WA and Queensland – regulating, assessing, monitoring impacts of major oil/gas industry, including the best practice monitoring and assessment protocols.

We ask that all these important recommendations and technical guidance be fully considered.

Associate Professor Karen Edyvane

On behalf of, Australian Marine Science Association

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