



Hon Dr Steven Miles MP
Minister for Environment and Heritage Protection and
Minister for National Parks and the Great Barrier Reef

Ref CTS 30023/15

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Mr Neil Laurie
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Dear Mr Laurie

I refer to your letter of 11 December 2015 enclosing a copy of Petition No. 2524-15 and 2401-15 lodged in the Queensland Legislative Assembly. Please accept this letter as my response to the petitions and I request that, under Standing Order 125, you table the response by Monday, 4 January 2016.

Please note that Petition No. 2524-15 raises some issues similar to those addressed in my response to Petition Nos. 2328-14 and 2362-15, dated 27 April 2015. Where relevant, I also refer to the above mentioned response.

I welcome the commitment expressed by these petitioners to the important task of protecting Moreton Bay's aquatic habitat and I strongly share their view that it is essential for comprehensive information on the status of the Bay to be made routinely available to the community, in an easily accessible form.

I'm pleased to advise that comprehensive information of the kind desired by the petitioners is already gathered and publicly reported through the research, management, and monitoring programs provided by the Department of Environment and Heritage Protection (EHP) and the Department of National Parks, Sport and Racing (NPSR).

While we should always seek opportunities for these programs to be further improved and strengthened, I can advise that these programs do already provide a sound basis for government, the community and all stakeholders to ensure that current and future threats to Moreton Bay's natural resources and assets are identified and managed effectively.

I'm pleased to provide the following outline of these initiatives and programs and, at the end of this response, also provide some information on how they address specific areas of interest nominated by the petitioners.

Monitoring and public reporting

The SEQ region (including Moreton Bay) is subject to one of the most comprehensive aquatic ecosystem monitoring programs in Australia. The Ecosystem Health Monitoring Program (EHMP) monitoring results are published annually in the *Healthy Waterways Report Card*. The Report Card is publically accessible at the *Healthy Waterways* website and provides readily understandable 'A' to 'F' grades for each SEQ catchment and Moreton Bay.

The EHMP evolves over time to better assess and report on diffuse land use pressures, environmental condition and management priorities to address identified pressures. Importantly, the 2015 Report Card includes consideration of habitat condition (riparian zone and seagrass), and the community benefits provided by waterways and Moreton Bay.

Initiatives to improve Moreton Bay water quality and catchment health.

EHP is leading strong initiatives targeted to improve Moreton Bay water quality and catchment health.

Through the '*Investing in our Environment for the Future*' program, EHP is actively working in partnership with industry, independent organisations, local governments and other State Government departments to deliver priority projects and reduce sediment and nutrient runoff to waterways and Moreton Bay, including:

- Continued water quality monitoring and reporting and the publication of the annual Report Card that tracks progress and is used to inform our collective investments in new projects and initiatives;
- Over \$1 million to expand our knowledge on wetlands management, hydrological functions, biodiversity values and land uses to further understand their interactions, inform catchment management and present information to the community through the department's '*WetlandInfo*' website;
- A \$4.5 million investment on best management practices for grazing and horticulture to improve soil and nutrient management and reduce runoff, and on grounds works for stream bank rehabilitation, gully restoration and flood mitigation;
- Over \$1 million to reduce urban runoff from erosion and sediment during construction projects and stormwater management, including revised legislation, policies, technical guidelines and boost on capacity building for local governments and industry engagement; and
- Development of 2031 sustainable loads for South-East Queensland (SEQ) waterways and Moreton Bay, and water quality protection planning to identify on-ground actions to protect water quality standards and environmental values. These initiatives will inform priority areas of investment and decision-making to continue the required water quality improvements to achieved sustainable targets.

EHP is also working with the Department of Natural Resources and Mines (DNRM) and the South East Queensland Council of Mayors to consider new governance arrangements to increase the effectiveness of our on-ground investments, and achieve improved water quality outcomes for waterways and Moreton Bay, consistent with the 2031 sustainable loads for SEQ.

Review of water quality standards for South-East Queensland waterways and Moreton Bay

EHP has also commenced a review of the water quality standards under the *Environmental Protection (Water) Policy 2009*, that inform the day-to-day statutory planning and decision making under Queensland Government legislation. The review will ensure legislated water quality standards remain up to date with management priorities and community expectations to protect and improve water quality in Moreton Bay and SEQ waterways.

Specific matters raised in the Petition

In relation to specific matters raised in the Petition, information from the Ecosystem Health Monitoring Program provides the basis of the response to the following matters:

Seagrass distribution and condition

- Seagrass distribution in Moreton Bay is mapped every three years. Seagrass condition, through depth measurement, is mapped at 17 sites in Moreton Bay twice a year. The latter monitoring reflects seagrass condition with a deep range indicating clear waters and favourable conditions for seagrass growth. Seagrass range and depth are inputs to the Report Card grades of the Moreton Bay zones. Summary results from the 2015 Report Card are as follows:

- Eastern Bay (Grade A): *'The overall environmental condition of the Eastern Bay is excellent. Mangrove and seagrass habitats are in excellent condition, which support fish, turtles and dugongs.'*
- Central Bay (Grade B+) *'The overall environmental condition of the Central Bay is good. Water quality is excellent but is under pressure from very high sediment and nutrient loads and an expanding mud patch.'*
- Western Bay (Grade B) *'The overall environmental condition of the Western Bay is good. Habitats in Deception and Waterloo Bays range between fair to good condition.'*

Sediment condition and composition

- Research conducted by University of Queensland and Griffith University on behalf of Port of Brisbane and Queensland Government shows changes in sediment distribution in Moreton Bay, particularly as a result of major floods; prompting management actions to control sediment export from catchments entering Moreton Bay.

pH and dissolved gas loading

- pH and dissolved oxygen are two of a range of water quality parameters measured at 87 monitoring sites on a monthly basis in Moreton Bay under the EHMP. This monitoring has been ongoing for over 15 years and consistently shows high dissolved oxygen and stable pH throughout Moreton Bay.

Location and concentration of water column nutrient levels

- The estuarine EHMP monitoring program also takes nutrient samples during its monthly sampling. This data shows an east-to-west gradient in nutrient concentrations with higher nutrient levels found to the east, sourced from catchment exports. Nutrient concentrations are generally meeting the Water Quality Objectives under the *Environmental Protection (Water) Policy 2009* and long term trends reveal significant improvements over the course of the monitoring program.

Temperature Gradients

- Temperature of water column in Moreton Bay is routinely measured as part of the EHMP program. This data is analysed and recorded with the suite of water quality parameters taken. Moreton Bay is a shallow, well mixed bay with maximum temperature gradient of 1-2 degrees Celsius. Seasonal range of temperature shows around 18 degrees in winter up to 26 degrees in summer.

Feed water movement and condition from catchment areas

- Water discharges from catchment areas are continuously monitored by DNRM gauging stations with information available on the DNRM *Water Monitoring Portal* website. The condition of waters from catchment areas is monitored by the South East Queensland Catchment Loads Monitoring Program. This program measures water quality during rainfall events and calculates loads of nutrients and sediments delivered downstream from the catchments. The EHMP has monitored water quality at 167 sites in estuarine reaches of South-East Queensland, with most leading to Moreton Bay. These results are summarised in the annual Report Card.

Waste Accumulation

- The Queensland Government monitors the occurrence of litter annually through the National Litter Index, and works to reduce litter through strong environmental laws and by supporting organisations such as *Healthy Waterways* in their campaigns to educate the public on behaviour change and in conducting clean-up campaigns.
- The Palaszczuk Government is actively investigating ways to cut down the amount of debris entering the marine environment in the first place, through restrictions on plastic shopping bags or a container deposit scheme.

Importantly, the EHMP results not only inform the *Healthy Waterways Report Card* but also link to management actions to improve water quality. For example, the monitoring results provide critical information to support the Resilient Rivers Initiative, recently established by

South East Queensland Council of Mayors with the support of the Queensland Government. The Resilient Rivers Initiative is addressing gully erosion in rural areas and subsequent sediment movement into the bay, through a prioritised program of catchment actions.

Moreton Bay habitat, wildlife, social values and biological health values

Activities by EHP and NPSR relevant to ensuring the sustainability of Moreton Bay habitat, wildlife, social values and biological health values were outlined in my response to Petition Nos. 2328-14 and 2362-15 dated 27 April 2015.

This response outlined research and monitoring programs conducted by both EHP and NPSR, or in collaboration with university researchers, on marine turtles, humpback dolphins, dugong studies and the marine wildlife database that collates the state-wide occurrence of sick, injured and dead marine wildlife.

The Moreton Bay Marine Park zoning plan is a key management tool to protect the bay's biodiversity and unique habitats and wildlife.

NPSR, in partnership with EHP, the Department of Science, Information Technology and Innovation, CSIRO, Griffith University, University of Queensland, the Queensland Ornithological Society and the, then, Department of Employment, Economic Development and Innovation, completed a comprehensive five year monitoring program in Moreton Bay Marine Park as part of the 2009 zoning plan review.

The monitoring program review investigated the full range of ecological, economic and social outcomes of the zoning plan. It was a significant investment by the department and partner organisations. Some of the issues that were examined through the monitoring program included:

- How the condition, structure and function of key habitat types are influenced by activities affected by the new zoning;
- Inshore fish and crabs, offshore fish, shorebirds on ocean exposed beaches, and habitat connectivity;
- The impact of the new zoning on the abundance of fish and invertebrates across different zone types, also compared to before the zoning plan was implemented;
- How the zoning influences use of the marine park and businesses servicing those users; and
- Tracking how community perceptions of the Marine Park and reasons for visiting change over time.

The zoning plan assists park managers to make well-informed decisions, ultimately ensuring the best outcomes for the Moreton Bay Marine Park.

Yours sincerely



DR STEVEN MILES MP

**Minister for Environment and Heritage Protection and
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