



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

4<sup>th</sup> September 2015

Dear Secretary,

**Submission into Senate Inquiry on the Threat of Marine Plastic Pollution in Australia**

We have been directed by the State Council of the Wildlife Preservation Society of Queensland (Wildlife Queensland) to avail ourselves of the opportunity to forward comments for consideration by the Senate Standing Committee on Environment and Communications into the Inquiry on the Threat of Marine Plastic Pollution in Australia

**About Wildlife Queensland**

Wildlife Queensland is one of the longest established and most respected wildlife-focused conservation groups in Queensland. With over 6500 supporters spread across branches throughout the State Wildlife Queensland is a strong voice for our wildlife and its habitat.

Wildlife Queensland is apolitical. Our aims include:

- Preserve the flora and fauna of Australia by all lawful means
- Educate the community in an understanding of the principles of conservation and preservation of the natural environment
- Discourage by all legal means, the possible destruction, exploitation and unnecessary development of any part of the natural environment.
- Encourage rational land use and proper land planning of existing and future development and the use of the natural environment and its management.

**Our Submission**

Thank you for the opportunity to provide a submission to this Inquiry. The problems and threats posed by marine debris, in particular plastic debris, are of great concern to Wildlife Queensland

and we urge you to act decisively to recommend urgent action to address these growing problems.

In 2003, the Commonwealth Government identified marine debris as a key threatening process under the Environment Protection and Biodiversity Conservation Act 1999.

As a consequence, a *Threat Abatement Strategy* was developed. This strategy includes the prohibition of garbage dumping from ships at sea, makes provisions for the collection of discarded fishing nets by Commonwealth and other vessels and provides *Caring for our Country* funding for community clean ups. The strategy also initiated research by the CSIRO on the extent and threats posed by marine debris in Australian waters.

A subsequent report by the CSIRO, *Marine Debris: Understanding the Effects of Marine Debris on Wildlife*, stated:

*'We found that within Australia, approximately three-quarters of the rubbish along the coast is plastic. Most is derived from nearby sources, with some likely to be from overseas. In coastal and offshore waters, most floating debris is plastic and the density of plastic ranges from a few thousand pieces of plastic per km<sup>2</sup> to more than 40,000 of pieces of plastic per km<sup>2</sup>. Debris is more highly concentrated around major cities, suggesting local source point pollution.'*

The report observed that:

*'The most effective way to reduce and mitigate the harmful effects of marine debris is to prevent it from entering the marine environment: cleaning up our oceans is a much less practical solution.'*

*'We also evaluated the effectiveness of incentive schemes, such as South Australia's container deposit scheme, in reducing waste lost into the environment. The scheme appears to be very successful, reducing the number of beverage containers, the dominant plastic item in the environment, by a factor of three.'*

Despite these statements, the Commonwealth has failed to date to initiate or support the development of container deposit schemes in Australia. Indeed, the Commonwealth has described container deposits as too expensive an option. Boomerang Alliance has assessed the cost at less than 1 cent per container.

Despite clear evidence that the banning and restricting of plastic packaging reduces marine plastic debris and wildlife threats, the Commonwealth has given only perfunctory support to State jurisdictions considering banning problematic plastics. It has never initiated a national ban.

The agenda to phase out dangerous microplastics is progressing. Many manufacturers of these products are voluntarily phasing them out. We need the Commonwealth to actively and expeditiously support the jurisdictional phase-out of these products, in cooperation with the States.

We urge urgent Commonwealth action on these matters and more active support for State jurisdictions considering these vital and necessary measures.

## **The Threat of Marine Plastic Pollution in Australia**

Marine plastic pollution is a growing global threat to biodiversity and is already having a devastating impact on the Australian environment. In addition to the eyesore of litter and rubbish, this type of pollution is a major threat to wildlife. Globally it is estimated that 1 million sea birds and over 100,000 mammals die every year as a result of plastic ingestion or entanglement.

In the CSIRO Marine Debris Report 2014 (referenced above), the CSIRO suggest that by 2050 '95% of all sea birds will have plastic in their gut'.

The report identifies that of nearly 200 species assessed worldwide, 43% of birds and 65% of individuals within a species have plastic in their gut.

A high-risk global litter hotspot is the Tasman Sea. In a species-specific study the CSIRO reports that 67% of short-tailed shearwaters ingested litter. Birds ate everything from balloons to glow sticks, plastic pellets to foam and string.

In Queensland, research conducted by the UQ Research Station on Stradbroke Island has concluded that 30% of sea turtles deaths in Moreton Bay are attributable to plastic ingestion, with a further 6% due to entanglement.

Recent data released by the Queensland National Parks and Wildlife Service found that over 70% of loggerhead turtles found dead in Queensland waters have ingested plastic.

A significant number of whales and dolphins have been found to have ingested plastics that have caused fatal blockages. In August 2000 an eight metres Bryde's whale died on a Cairns beach. An autopsy revealed the whale's stomach contained 6M<sup>2</sup> of plastic, including plastic bags.

The CSIRO found that entanglement in marine debris posed a significant risk to marine fauna.

*'Seabirds, turtles, whales, dolphins, dugongs, fish, crabs and crocodiles and numerous other species are killed and maimed through entanglement. We estimate that between 5,000 and 15,000 turtles have become ensnared by derelict fishing nets in the Gulf of Carpentaria region. For pinnipeds in Victoria, the majority of seal entanglements involved plastic twine or rope.'*

The Great Barrier Reef Outlook Report 2014 and the Great Barrier Reef Long Term Sustainability Report 2015 (GBRLTSP) have identified marine debris as a major threatening process to the long-term health and sustainability of the reef.

The Outlook Report states that,

*'Marine debris, including that delivered through land-based run-off, continues to affect the ecosystem and is of particular concern for species of conservation concern. Many of the Region's heritage values, including its outstanding universal value, are vulnerable to land-based run-off through its effects on the ecosystem. In addition, water quality declines and marine debris are likely to be diminishing the Region's natural beauty.'*

The Long Term Sustainability Report states,

*‘The sources of marine debris are wide and varied. To address this threat, managers adopt a multi-pronged approach. This includes the regulation of waste from vessels and urban environments, together with a range of partnership activities with local government, industry and community groups. Marine debris is identified as a key threatening process under the EPBC Act. ‘*

Researchers have also found that corals eat microplastics. According to the ARC Centre for Excellence for Coral Reefs at James Cook University, corals are non-selective feeders and can eat plastics when present in seawater.

They state that,

*‘We found that corals ate plastic at rates slightly lower than their normal rate of feeding on marine plankton.’*

*‘If micro-plastic pollution increases on the Great Barrier Reef corals could be negatively affected as their tiny stomach cavities become full of indigestible plastic.’*

There is also the potential for marine wildlife to absorb heavy metals and other toxic substances through ingestion of micro-plastics. When plastics start to break down they release toxins. Many marine scientists have expressed growing concerns about the extent of plastics being found in the marine environment and also warn about the dangers of plastics becoming more prevalent in the food chain and in seafood consumed by human populations.

### **Land-based Sources of Marine Plastic Pollution**

Whilst marine debris is broader than the litter from land based sources, and includes discarded fishing equipment and materials and other items, our chief concern is about land based sources of litter, particularly items that we believe could be avoided. The focus of this submission is therefore on these materials.

The single largest point of plastic litter and marine debris is beverage sector waste, with plastic bottles, along with lids, straws, cups etc. representing around half of the material (by volume) and some 60% of all plastic rubbish recovered along our beaches and waterways. (National Litter Report)

Consumption of single use plastic bags is estimated at over 5 billion a year in Australia. It is reasonable to expect that the amount of plastic bags entering the litter stream each year is likely to be as high as 150 million bags p.a.

According Keep Australia Beautiful Litter Index, Queensland is the most littered state in Australia. Clean Up Australia in their annual Rubbish Report 2015,

*‘Plastics and drink containers are still a major problem in Queensland. Despite all the government programs over the years, beverage containers still represented over 37% of the Top 10 items reported by volunteers in 2014. ‘*

These findings are reflected in the South East Queensland Healthywaterways Rubbish Report. Healthywaterways collect floating litter from SEQ waterways on a regular basis from creeks, rivers, and mangroves and from Moreton Bay. The organisation estimates that on average it collects over

250,000 items of litter every year. The SEQ Healthywaterways clean up program covers over 210 kilometres of waterways *'with the most common item collected being plastic bottles followed by food packaging.'*

Microplastics, including nurdles and microbeads, are increasingly causing great concern. Microbeads are small polythene balls widely used in cosmetics, skin care and personal care products. When disposed of they can easily enter the marine environment through the waste treatment system.

Nurdles are small plastic pellets used as the base material in the manufacture of plastic products. Tangaroa Blue have carried out a number of studies and sampling over a broad geographical range in five States have found concentrations as high as 6000 nurdles per square metre of beach.

### **Proven Measures to Reduce Plastic Pollution**

Based upon the experience and the example South Australia and other jurisdictions that have introduced a container deposit scheme (and coupled with a ban on single use plastic bags) a Container Deposit System would reduce beverage litter of the marine environment by at least 60% and almost triple bottle and cans recycling rates to 85%. It would also create an incentive that would see the private sector investing hundreds of millions of dollars into new collection and processing facilities while also providing a significant financial boost for both local government and community organisations.

Banning plastic bags and microbeads would have a significant impact on the amount of plastic that enters the marine environment and effectively target those plastics that are most likely to be mistaken as a source of food. Banning these materials directly removes their threat. South Australian authorities estimate that the plastic bag ban has removed 400 million bags from circulation per year in that State.

Polling conducted for NGO 'Do Something' in May 2009 found that 83% of Australians want a ban on non-biodegradable plastic bags. Recent national polling by the Boomerang Alliance (Omnipoll August 2015) found that 73% of Queenslanders were concerned about plastic packaging in the environment.

Improved stewardship within the plastics industry would address the problem from its source. Whilst it is already an offense to dump waste down the stormwater system in every Australian jurisdiction, the problem still exists due to a poor effort to enforce regulations and inform the industry that it is expected to ensure nurdles do not migrate from their facilities or transport systems.

### **Conclusions**

Wildlife Queensland is deeply concerned by the significant problems associated with marine debris, particularly the growing problem of plastic litter from land-based sources. The persistent nature of plastic, coupled with the extent and nature of those plastic products, makes this a particular and long-term problem that needs to be addressed urgently.

A start can be made by introducing proven measures that reduce and restrict litter, particularly plastics. These measures include the introduction of container deposit schemes, the banning of problematic plastic packaging and the phase-out of microbeads.

These measures would also provide economic and social benefit through reducing the unnecessary use of finite resources and encourage greater resource recovery, job creation and community-based financial stimulus.

### **Recommendations**

1. That the Commonwealth actively support State and Territory jurisdictions to introduce and implement container deposit schemes and bans on problematic plastic packaging

Wildlife Queensland is not suggesting that the Commonwealth take the lead in a national roll out of CDS or plastic packaging bans. Many States and Territories have already introduced or instigated these approaches. Wildlife Queensland strongly urges the Commonwealth to publicly back and support the introduction of these measures in each jurisdiction and promote a consistent jurisdictional approach. Where States or Territories have yet to instigate these measures that the Commonwealth actively encourage those jurisdictions to engage with others and introduce their own consistent schemes.

2. That the Commonwealth back existing plans to phase out microbeads and introduce national regulations that reinforce these measures

National regulations on the phase out of microbeads and managing the impacts of the plastics in industry would extend the benefits of these measures and ensure a more consistent, national response. We encourage the Commonwealth to play a more active role in this process.

3. Establish a National Taskforce to identify the next steps in reducing marine debris and its Impacts

The measures listed represent a first step in reducing the impact of plastics on the environment and wildlife. As a longer term agenda, we recommend that the Commonwealth establish a taskforce to examine the next steps that need to be taken to further reduce marine debris (and associated plastics), to provide research funding and identify the proven educational and regulatory measures required to change wasteful behaviour and establish a more ecologically sustainable resource culture and economy.

Yours faithfully



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