



Policy Recommendations on the Key Coastal Management Issues Federal Election 2016

This document has been prepared for the information and response of political parties contesting the 2016 Federal Election



INTRODUCTION

The Sydney Coastal Councils Group (SCCG) is a Regional Organisation of Councils representing 11 councils in the Sydney coastal region. The SCCG's mission is to lead sustainable management of the coast through collaboration, capacity building, advocacy and research.



The SCCG has delivered a range of research projects and capacity building tools relating to sustainable coastal management and natural hazard preparation (Appendix A). For more information go to www.sydneycostalcouncils.com.au

Australia's 35,877 kilometre¹ coastline is one of our most valuable national assets. More than 85% of Australians live within 50 kilometres of the coast² and the coastal population continues to grow, placing increasing pressures on natural values. The sustainable management of marine and coastal assets for the benefit of all Australians, now and in the future, requires coordinated action from all levels of government.

A collaborative, cross-jurisdictional approach to planning, preparing for and mitigating natural hazards, including extreme weather events such as floods, droughts and storm surges, is becoming more pressing as these events increase in frequency.

With ongoing increases in population, development, commercial, and recreational pressures facing the Australian coastal zone there is an urgent need to increase the Australian Government's role in providing leadership, guidance and support for sustainable coastal management.

This document details recommendations for policies and strategies to improve coastal management at the national scale. It has been prepared with the input of the SCCG's Technical Committee and key policy areas have been endorsed by the SCCG Executive.

The SCCG asks all major parties contesting the 2016 federal election to provide a response to our policy recommendations and information requests for our five priority coastal management issues:

- 1. A National Coastal Management Initiative**
- 2. Coastal Hazards: A Consistent and Coordinated Approach to Natural Hazards Management**
- 3. Water Management for Cities**
- 4. National Action on Plastics Pollution**
- 5. Funding for Community Coastal Programs**

The SCCG will be disseminating the information provided by each party to our Member Councils and to other regional and national stakeholders prior to the election.

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A National Coastal Management Initiative

Desired Outcome: A National Coastal Management Initiative, incorporating a National Coastal Policy, a National Coastal Council or Commission, and a National Marine Estate Management Strategy.

CONTEXT

The SCCG believes there is an urgent need to establish national policy and governance arrangements to ensure the long term sustainable management of Australia's coastal zone. Australia's coastal zone is arguably the nation's most significant environmental asset, and it is critically important to the nation's social and economic prosperity. As the world's largest island under ever increasing stresses, being managed by multiple jurisdictions within a very complex regulatory, policy and practice environment, there is clear need to develop a National Coastal Management Initiative including the following three core elements.

1) A National Coastal Policy

Australia's coastal zone is facing unprecedented environmental, climate change, population growth, infrastructure renewal and competition pressures. Despite numerous national and state coastal zone inquiries, Australia has not had a national policy since the 1995 document *Living on the Coast – The Commonwealth Coastal Policy*³.

There is now an urgent need to re-develop a cooperative coastal policy that provides specific national decision making principles and national objectives for sustainable resource use, nature conservation, public participation in decision making, knowledge and capacity building. The policy should also better define jurisdictional responsibilities and develop agreed management actions to address the shared interests of national, state and local governments for a sustainable, productive and resilient coast.

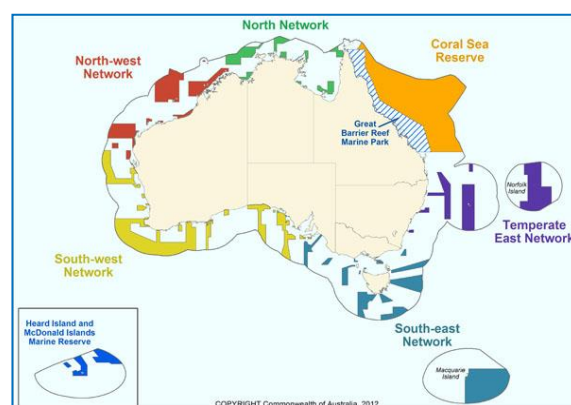
2) The establishment of a National Coastal Council or Commission

The establishment of a National Coastal Council or Commission is essential for cross-jurisdictional coordination and cooperation to address existing and future challenges facing Australia's coastal zone. This peak intergovernmental body should review and build on the Natural Resource Management Ministerial Council's 2006 *National Cooperative Approach to Integrated Coastal Zone Management - Framework and Implementation Plan*⁴ and be tasked with providing assistance and advice on coastal policy and practice to the Australian, state, territory and local governments.

3) A National Marine Estate Management Strategy

The Australian marine environment is recognised for its outstanding natural beauty, diverse marine biota and valuable natural resources. Our national marine estate is the third largest of any nation in the world. Due to its significant natural, cultural, social and economic values the national and state marine estate must be managed in a coordinated and sustainable manner to ensure the ongoing conservation of marine biodiversity.

It is now time to develop an intergovernmental National Marine Strategy. This strategy would build on the fundamentals of the 1998 Australia's Oceans Policy and the Marine Bioregional Plans⁵, to develop a national framework working



collaboratively with all state, territory and local governments to coordinate management and conservation efforts for the entire Australian marine estate.

RECOMMENDATIONS

The Australian Government commit during the next term of government to:

1. Developing a National Coastal Policy.
2. Instituting a National Coastal Council or Commission.

This body should:

- Be made up of relevant ministerial representatives from national, state and territory governments with input from additional senior federal and state departmental, local government management, community, industry and research representatives, and be supported by an appropriately resourced secretariat.
- Identify the priority national coastal issues, risks and opportunities
- Develop the National Coastal Policy and associated implementation programs based on identified priorities, and associated guiding management principles
- Provide an auditing and reporting function on the implementation of the National Coastal Policy (potentially supported via a National Coastal Management Act)
- Enable cross-jurisdictional dialog on key coastal issues such as planning, industry, commerce, environment and emergency management
- Identify and address emerging issues relevant to national coastal management

3. Developing a National Marine Management Strategy.

This strategy should:

- Ensure comprehensive, adequate and representative conservation of marine natural assets and values
- Ensure the planning and management of the national marine estate and the state / territory marine estates are complementary
- Ensure sustainable use of the marine estate
- Implement obligations under international treaties
- Establish and enhance national marine research and monitoring and establish a national information portal

Information request: The SCCG requests the position of your party on the above recommendations.

Coastal Hazards: A Consistent and Coordinated Approach to Natural Hazards Management in the Coastal Zone

Desired Outcome: An Australian Government strategy and resource commitment to the delivery of consistent and coordinated approaches to natural hazard management in the coastal zone.

CONTEXT

Natural hazards including extreme weather events and other impacts of climate change are having significant financial, social and environmental impacts on coastal communities. The highly populated coastal zone is where the impacts of natural hazards are and will continue to be most felt.

RECOMMENDATIONS

There are a number of existing programs and policies related to emergency management procedures in Australia, including the National Strategy for Disaster Resilience⁶. To build on these, and to ensure consistent approaches to natural hazard management in the coastal zone, the SCCG recommends the following strategies are developed and implemented through an endorsed and resourced National Actions Plan:

1. A national standard for hazard and risk assessments and standard definitions for all natural hazards across all jurisdictions
2. An inquiry into policies offered by insurance agencies to ensure fair and equitable coverage of natural hazards and to identify future risks and limitations.
3. Provision of incentives for all state and territory governments to legislate legal liability restrictions for natural hazards, similar to Section 733 of the *NSW Local Government Act 1993*.
4. Develop a National Coastline Observatory Facility to address the paucity of sustained observation currently underway around Australia's coastline to underpin the necessary foundation information for coastal risk assessment, climate change shoreline forecasting and now-casting of coastal erosion and inundation warning systems⁷.
5. An intergovernmental agreement to continue to resource and update the National Climate Change Adaptation Research Facility (NCCARF) [CoastAdapt](#) tool post 2017.
6. Reduce Australia's future risk of extreme weather events and other impacts of climate change by:
 - o Phasing out fossil fuel credits and subsidies for the mining sector
 - o Committing to a clear plan for phasing out fossil fuel-generated electricity and replacing with renewable energy.

Information Request: The SCCG requests the position of your party on:

1. Developing a National Actions Plan to implement the proposed strategies to manage natural hazards in the coastal zone as outlined above, and
2. What additional strategies and actions your party might implement to ensure adaptation to and mitigation of natural hazards in the coastal zone

Water Management for Cities

Desired Outcome: National leadership, policy direction, and action to achieve sustainable and integrated water management for urban cities.

CONTEXT

According to the Australian Bureau of Statistics (ABS), two thirds of Australia's population lives in a greater capital city⁸. In 2015, Infrastructure Australia released the Australian Infrastructure Audit which projected Australia's population to grow 36.5% to 30.5 million in 2031⁹. Population growth will drive a significant rise in the demand for infrastructure services, particularly in cities, with almost three-quarters of this growth projected to be in the four largest capital cities – Sydney, Melbourne, Brisbane and Perth. In total, these four cities are projected to grow by 46 per cent, to 18.6 million in 2031¹⁰.

This population growth will impose additional demands and pressures on aging urban water infrastructure, leading to more frequent overflows, leaks, flooding and shortages. Adding to this is the increased likelihood of extreme weather events such as droughts, storms or floods under a changing climate.

Climate change projections for Australia suggest a hotter, drier climate, wetter tropics, rising seas and more intense fires and floods¹¹. Predicted decreases in rainfall of 10% by 2030 and 20% by 2050, and the increase in the severity and occurrence of floods, bushfires and drought, will affect the security of public water supply in Australia's most populous cities¹². Conserving water supplies, managing water services and infrastructure, and ensuring water security will be critical components of climate change adaptation strategies for Australian cities.

Aging water infrastructure, or assets that are not purpose built to cope with a broad range of conditions, are particularly vulnerable to climate change, leading to asset failure and increased renewal and replacement costs. Replacement costs for the 146,000 km Australian water network could cost \$40-175 billion, whilst the 123,000 km sewer network could cost \$34 to 148 billion to replace and upgrade¹³. It is recommended that a national long-term investment program be put in place to fund the management and maintenance of water infrastructure in light of future pressures.

Urban development also increases the area of impervious surfaces within a catchment, generating larger volumes of stormwater runoff. This increases the pressure on stormwater infrastructure and contributes to poor water quality, carrying pollutants such as oils, heavy metals and nutrients to our waterways, which negatively impact on ecosystem and public health. The 2015 Senate Inquiry into Stormwater Management in Australia¹⁴ makes a number of recommendations for the Australian Government to reduce these impacts. This report and its recommendations should be endorsed and implemented as a matter of priority.

In recognising the challenges, it is clear that there is a need to manage water in the urban context on a whole-of-water cycle basis, within sustainable limits, in order to create more sustainable, liveable cities.

Many local governments and water utilities are already utilising more efficient, decentralised approaches to conserve potable water and capture stormwater runoff, including rainwater tanks, stormwater harvesting and reuse schemes, green infrastructure, and Water Sensitive Urban Design principles. However, the use of these approaches has generally been ad hoc, voluntary and/or dependent on available funding.

According to the ABS, most Australian households (79%) took at least one step to save water around their home over a 12 month period¹⁵. Increased water efficiency measures by Australian households, local councils, water utilities, industry, and government agencies can lessen the demand for potable water supplies in urban cities; resulting in greater environmental benefits and

a sustainable water supply in the future. To achieve this outcome there needs to be direction, leadership, commitment and investment from the Australian Government.

The National Water Initiative (NWI) agreed to by COAG in 2004 was a shared commitment by governments to increase the efficiency of Australia's water use¹⁶. Key Outcomes of the Initiative included providing healthy and reliable water supplies; increasing water efficiency; encouraging reuse and recycling of wastewater, improved pricing regimes and innovation in water supply sourcing, treatment, storage and discharge.

The abolishment of the independent, statutory National Water Commission, the lack of progress on actions for urban water management and efficiency under the NWI, the cessation of transparent reporting and auditing of progress, are symptoms of the decline in government commitment and prioritisation for urban water management over recent years. This is of great concern, considering the current and future water pressures faced by cities.

Management of the water cycle for cities needs to be placed firmly back on the agenda of all levels of government, with the Australian Government leading the way. The SCCG provides the following recommendations for the next Australian Government to achieve during its first term:

RECOMMENDATIONS

1. Endorse and implement the recommendations of the Senate Inquiry into Stormwater Management in Australia 2015.
2. Initiate a National Inquiry on the sustainable management of Australia's water supply and planning for water security for urban cities.
3. Develop a nation-wide Water Security Assessment process to be implemented by the State and Territory Governments for all major cities.
4. Prepare a guideline document(s) for climate change adaptation and preparation, addressing water security solutions and design principles for cities.
5. Develop a national best practice policy framework / and / or a national standard for the implementation of Water Sensitive Urban Design into all new developments and retrofitting into existing developments.
6. Development of an incentives program to ensure Water Sensitive Urban Design is incorporated into all new development projects, and retrofitting projects across all states and territories.
7. Commit to a long-term investment program for the management and maintenance of water infrastructure in cities.
8. Work with the Water Services Association of Australia (WSAA) to set national targets for water reuse by water authorities.
9. Introduce a national standard requiring, as a minimum, secondary treatment of sewage released from ocean outfalls.

<p>Information Request: The SCCG requests the position of your party on the above recommendations.</p>

National Action on Plastic Pollution

Desired Outcome: National leadership, strategy and action to drastically reduce the volume of plastic pollution entering marine and coastal environments.

CONTEXT

Plastics are versatile, inexpensive, durable and lightweight¹⁷, and they have become ubiquitous in manufacturing and packaging. They are also now one of the world's most pervasive problems^{18,19}. Typically 50 – 80% of the waste that accumulates on beaches, the ocean surface and the seabed is plastic^{20,21,22}. The UN Environment Programme listed plastic debris in oceans as one of three global emerging issues²³. Plastic debris threatens over 250 species of marine fauna by entanglement and ingestion²⁴.

Although waste is primarily managed by the states and territories, the Australian Government can show leadership and encourage national consistency by working with all remaining states and territories to achieve nationally consistent bans on single-use plastic bags and container deposit schemes to improve recycling of beverage containers.



Photo © CSIRO

The Australian Packaging Covenant and the National Environmental Protection (Used Packaging Materials) Measure (NEPM) are well-meaning initiatives to help reduce the volume of plastic packaging waste produced by Australian companies, but there are recent indications that these measures are failing to achieve their recycling and packaging reduction targets^{25,26} and there is room for significant improvements.

Microplastics absorb and concentrate persistent organic pollutants (POPs), providing a pathway for entry into the food web and onto the dinner table^{27,28,29}. Alarming quantities of microplastics have been detected in marine habitats around the world, including our own iconic Sydney Harbour, where a recent study discovered up to 60 microplastic items per 100 milligrams of seafloor sediment^{30,31}.

There are many sources of microplastics, including microbeads used in cosmetics. We acknowledge that the current Australian Government has stated its continued support for a voluntary phase out of microbeads, and if this does not achieve what is in effect a ban by 1 July 2017, then a legislative ban will be implemented³². The SCCG seeks the commitment of all major parties to a legislative ban on the import of microbeads during the first year of government.

Synthetic fibres from clothing also make up a significant proportion of microfibers in the marine environment and in the stomach contents and tissues of fish³³. A single synthetic garment can release >1,900 fibres per wash³⁴ and a third of the food we eat may be contaminated with microfibres³⁵. These fibres are too small to be filtered out by sewage treatment plants, but researchers think that improved fabrics³⁶ or a filter on washing machines³⁷ could be a solution.

SCCG Member Councils are already undertaking multiple initiatives to reduce the volume of plastic debris entering our estuaries and ocean. To make a real difference, Australia also needs to take action at the national scale and in each state and territory.

The Senate Inquiry into the Threat of Marine Plastic Pollution in Australia³⁸ makes a number of recommendations for the Australian Government to reduce these impacts. This report and its recommendations should be endorsed and implemented at the earliest opportunity during the next term of the Australian Government.

Some additional specific recommendations on reducing plastic pollution from plastic bags, beverage containers, packaging and microbeads are made below.

RECOMMENDATIONS

The SCCG recommends that the next Australian Government achieve during its first term:

1. Endorse and implement the recommendations of the Senate Inquiry into the Threat of Marine Plastic Pollution in Australia³⁹.
2. Implement a legislative national ban on plastic microbeads, by, for example, listing products containing microbeads as a prohibited import, and banning the domestic production of personal care products containing microbeads under the *Cosmetics Standard 2007*.
3. Support research into reducing synthetic microfibres from entering the environment via washing machine wastewater in sewage, such as new, low-fibre-loss fabrics or washing machine filters.
4. Prepare template legislation for container deposit schemes and single use plastic bag bans for all remaining states and territories who have not yet implemented them.
5. Establish a forum for joint Commonwealth, state and territory decisions on reducing and mitigating plastic pollution and other environmental issues.
6. Set more ambitious targets for packaging reduction and industry recycling under the Australian Packaging Covenant; and provide clear, comprehensive annual auditing and public reporting of the outcomes of the Australian Packaging Covenant and the level of enforcement of the National Environmental Protection Measure by the states and territories.
7. Work with neighbouring countries in the region to develop cooperative programs to clean up marine debris pollution in international waters.

<p>Information Request: The SCCG requests the position of your party on the above recommendations.</p>

Funding for Community Coastal Programs

Desired Outcome:

- 1) Funding for community based coastal programs and initiatives.
- 2) The re-establishment of the Australian Government National Coastcare program.

CONTEXT

The SCCG recommends an Australian Government funding commitment for community based coastal initiatives that provides environmental protection, ecological restoration and capacity building activities.

There has been a considerable reduction in national support for community-based coastal programs over the last decade. As a result of this lack of support, most volunteer groups and organisations working with local authorities to undertake coastal conservation and education initiatives have had to reduce or redirect their efforts.

The contribution of the Green Army to conservation is acknowledged, however, the loss of many successful coastal initiatives and devolved grants program undertaken or supported by the Australian Government is a major concern. The SCCG believes the end of the very successful Coastal Action program, the Coasts and Clean Seas Program, Caring for our Country and the demise of the national Coastcare program has significantly limited the general community's ability to protect and enhance public lands in coastal areas.

RECOMMENDATIONS

During the next term of government, the SCCG recommends:

1. A renewal of funding for community-based coastal conservation activities
2. Re-establish the successful national Coastcare program of state and regional coordinators supporting local communities

Information Request: The SCCG requests the position of your party on the above recommendations.

REFERENCES

- ¹ Geoscience Australia, n.d. 'Border lengths – States and Territories', Australian Government www.ga.gov.au/scientific-topics/national-location-information/dimensions/border-lengths, 19.05.2016.
- ² Australian Bureau of Statistics, 2004, 'How many people live in Australia's coastal areas?' Australian Government, www.abs.gov.au/ausstats/abs@.nsf/Previousproducts/1301.0Feature%20Article32004, 19.05.2016.
- ³ Commonwealth of Australia, 1995, Living on the Coast – The Commonwealth Coastal Policy.
- ⁴ Natural Resource Management Ministerial Council, 2006, National Cooperative Approach to Integrated Coastal Zone Management - Framework and Implementation Plan. www.environment.gov.au/system/files/resources/5ce3ba77-4b62-43f0-a1e0-4a1a2266500e/files/framework.pdf 17/5/16
- ⁵ Australian Government Department of the Environment, n.d., Marine bioregional plans, <https://www.environment.gov.au/marine/marine-bioregional-plans>, 31.05.16.
- ⁶ CoAG National Emergency Management Committee, 2009, National Strategy for Disaster Resilience, https://www.coag.gov.au/sites/default/files/national_strategy_disaster_resilience.pdf, 31.05.16
- ⁷ National Marine Science Committee, 2014, Marine National 2025 White Paper: Establishment of a National Coastline Observation Facility. <http://frdc.com.au/environment/NMSC-WHITE/Documents/Submissions/Infrastructure%20subtheme%20white%20paper%20-%20National%20Coastline%20Observatory%20Facility.pdf> 19 May 2016
- ⁸ ABS, 2015, Population Change, <http://www.abs.gov.au/AUSSTATS/abs@.nsf/Previousproducts/3218.0Main%20Features152013-14?opendocument&tabname=Summary&prodno=3218.0&issue=2013-14&num=&view=>, 31.05.16.
- ⁹ Infrastructure Australia, 2015. Australian Infrastructure Audit – Supplementary Reports – Population Estimates and Projections, Commonwealth of Australia.
- ¹⁰ Ibid.
- ¹¹ BOM, 2010. State of the Climate, CSIRO and Bureau of Meteorology. <http://www.bom.gov.au/inside/eiab/State-of-climate-2010-updated.pdf>, 31.05.16
- ¹² Water Services Association of Australia, 2013. Water Security Information Pack Five, Water Services Association of Australia Ltd.
- ¹³ Water Services Association of Australia, 2012. Occasional Paper 27, Climate Change Adaptation and the Australian Water Industry, Water Services Association of Australia Ltd.
- ¹⁴ Senate Environment and Communications References Committee, 2015, 'Stormwater Management in Australia', http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Environment_and_Communications/Stormwater/Report , 31.05.16.
- ¹⁵ ABS, 2013, Rainwater tanks, <http://www.abs.gov.au/ausstats/abs@.nsf/Latestproducts/4602.0.55.003Main%20Features4Mar%202013?opendocument&tabname=Summary&prodno=4602.0.55.003&issue=Mar%202013&num=&view=>, 31.05.16.
- ¹⁶ Australian Government Department of the Environment, 2016, National Water Initiative, <https://www.environment.gov.au/water/australian-government-water-leadership/nwi>, 31.05.16
- ¹⁷ Andrady, A.L. & Neal, M.A. 2009, 'Applications and societal benefits of plastics', Philosophical Transactions of the Royal Society B: Biological Sciences, vol. no. 1526, pp. 1977-1984.
- ¹⁸ Joyner, C.C. & Frew, S. 1991, 'Plastic pollution in the marine-environment', Ocean Development and International Law, vol. 22, no. 1, pp. 33-69.
- ¹⁹ Sheavly, S.B. & Register, K.M. 2007, 'Marine debris & plastics: Environmental concerns, sources, impacts and solutions', Journal of Polymers and the Environment, vol. 15, no. 4, pp. 301-305.
- ²⁰ Barnes, D.K.A., Galgani, F., Thompson, R.C. & Barlaz, M. 2009, 'Accumulation and fragmentation of plastic debris in global environments', Philosophical Transactions of the Royal Society B-Biological Sciences, vol. 364, no. 1526, pp. 1985-1998.
- ²¹ Derraik, J.G.B. 2002, 'The pollution of the marine environment by plastic debris: a review', Marine Pollution Bulletin, vol. 44, no. 9, pp. 842-852.
- ²² Islam, M.S. & Tanaka, M. 2004, 'Impacts of pollution on coastal and marine ecosystems including coastal and marine fisheries and approach for management: a review and synthesis', Marine Pollution Bulletin, vol. 48, no. 7-8, pp. 624-649.
- ²³ UNEP 2011. UNEP Year Book 2011: Emerging issues in our global environment. United Nations Environment Programme. Division of Early Warning and Assessment, Kenya, 79 p.
- ²⁴ Laist, D.W. 1997, 'Impacts of marine debris: entanglement of marine life in marine debris including a comprehensive list of species with entanglement and ingestion records.', in J.M.a.R. Coe, D.B. (ed.), Marine debris, sources, impacts, and solutions, Springer-Verlag.
- ²⁵ Sydney Morning Herald, 2015, 'Australian packaging industry falling short of recycling goal, may cut target' July 3, 2015, www.smh.com.au/environment/australian-packaging-industry-falling-short-of-recycling-goal-may-cut-target-20150702-gi39h0.html#ixzz48neHefTE, 16.05.16.
- ²⁶ Westender, 'Governments all at sea on marine plastic' 18 February 2016, <http://westender.com.au/governments-all-at-sea-on-marine-plastic/>, 16.05.16.
- ²⁷ Andrady, A.L. 2011, 'Microplastics in the marine environment', Marine Pollution Bulletin, vol. 62, no. 8, pp. 1596-1605.
- ²⁸ Hirai, H., Takada, H., Ogata, Y., Yamashita, R., Mizukawa, K., Saha, M., Kwan, C., Moore, C., Gray, H., Laursen, D., Zettler, E.R., Farrington, J.W., Reddy, C.M., Peacock, E.E. & Ward, M.W. 2011, 'Organic micropollutants in marine plastics debris from the open ocean and remote and urban beaches', Marine Pollution Bulletin, vol. 62, no. 8, pp. 1683-1692.
- ²⁹ Rios, L.M., Jones, P.R., Moore, C. and Narayan, U.V. 2010, 'Quantitation of persistent organic pollutants adsorbed on plastic debris from the Northern Pacific Gyre's "eastern garbage patch"', Journal of Environmental Monitoring, vol. 12, no. 12, pp. 2189-2312.
- ³⁰ ABC News, 2014, 'Invisible threat: Microplastic contamination discovered on bottom of Sydney Harbour', news article 22 August 2014, www.abc.net.au/news/2014-08-21/microplastics-found-in-sydney-harbour-floor/5686472, 19.05.16.
- ³¹ UNSW 2014 'Microplastic threat to Sydney Harbour' media release 25 August 2014, <http://www.bees.unsw.edu.au/microplastic-threat-sydney-harbour>, 18.05.16.

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- ³² Australian Government Minister for the Environment, 2016, Federal Government strengthens efforts to tackle plastic waste, Media Release 29 February 2016, www.environment.gov.au/minister/hunt/2016/mr20160229a.html, 16.05.16.
- ³³ ABC Catalyst, 2016, 'Micro-plastics', Tuesday 15 March 2016, <http://www.abc.net.au/catalyst/stories/4424996.htm>, 19.05.16.
- ³⁴ Browne, M.A., Crump, P., Niven, S.J., Teuten, E., Tonkin, A., Galloway, T. & Thompson, R. 2011, 'Accumulation of microplastic on shorelines worldwide: sources and sinks', Environmental Science & Technology, vol. 45, no. 21, pp. 9175-9179. www.fibershed.com/wp-content/uploads/2012/08/Microplastic-Study.pdf, 19.05.16.
- ³⁵ Browne, M., n.d., Benign by Design, <http://www.launch.org/innovators/mark-browne>, 19.05.16.
- ³⁶ Browne, M., n.d., Benign by Design, <http://www.launch.org/innovators/mark-browne>, 19.05.16.
- ³⁷ Plastic Soup Lab, 2014, Washing machine filter for plastic fibres, August 11 2014, <http://www.plasticsouplab.org/showcases/washing-machine-filter/>, 19.05.16.
- ³⁸ Senate Environment and Communications References Committee, 2016, 'Toxic tide: the threat of marine plastic pollution in Australia', www.aph.gov.au/Parliamentary_Business/Committees/Senate/Environment_and_Communications/Marine_plastics/Report, 16.05.16.
- ³⁹ Ibid.

Appendix A: Sydney Coastal Councils Group climate change adaptation projects

The SCCG has been active in the climate change adaption space since 2005 and have produced several internationally leading programs with funding support from the Australian and NSW Governments. These are listed below:

- o [Sydney's Salty Communities – Turning the Tide on Blue+Green Carbon](#) (2013-2016) is enhancing the adaptive capacity of councils and the resilience of coastal habitats, foreshore and intertidal lands, responding to urban pressures and climate change. It comprises a 3-year research, capacity-building and on-ground rehabilitation program focusing on biodiversity and carbon storage in 'salt-influenced ecosystems' across Sydney's coastal environments and urban waterways.
- o [Emergency Management Planning: A Health Check for Local Government](#) (2014) a tool that allows a Council and regions to review their own performance in Emergency Management and to identify opportunities for improved outcomes, with reporting functions for ease of communication with the Council, emergency services and the community.
- o [Assessment and Decision Frameworks for Seawall Structures Project](#) (2013) developed tools and guides to evaluate the robustness and condition of existing small seawalls for coastal climate change protection and outline possible options for further upgrades.
- o [Prioritising Coastal Adaptation Development Options for Local Government](#) (2013) used multi-criteria analysis and spatial information to prioritise adaption options in response to coastal inundation and erosion.
- o [Demonstrating Climate Change Adaptation of Interconnected Water Infrastructure](#) (2012) developed information, guidance and capacity building activities to ensure that organisations responsible for managing water infrastructure are able to implement appropriate asset management systems in a changing climate.
- o [Mapping and Responding to Coastal Inundation](#) (2012) mapped areas of risk to determine risk and developed consistent model planning and management responses in consultation with relevant state government agencies and the broader community. ([NCCARF Adaptation Good Practice project](#))
- o [Audit of Sea Level Rise, Coastal Erosion and Inundation Legislation and Policy](#) (2011) involved a comparative assessment of Australian State and Territory planning and coastal legislation and policies that address sea level rise, coastal erosion, coastal inundation and storm surge, prepared by the EDO NSW.
- o [Beach Sand Nourishment Scoping Study](#) (2010) developed the outline of a sand nourishment programme utilising suitable offshore sand deposits for amenity enhancement and to ameliorate increased hazard risk from sea level rise.
- o [Systems Approach to Regional Climate Change Adaptation Strategies in Metropolises](#) (2008) developed and tested an integrated, systems approach to assist Councils in assessing their vulnerability to climate change and the barriers and opportunities associated with adaptation at the Local Government scale. (Eureka Prize Winner)



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