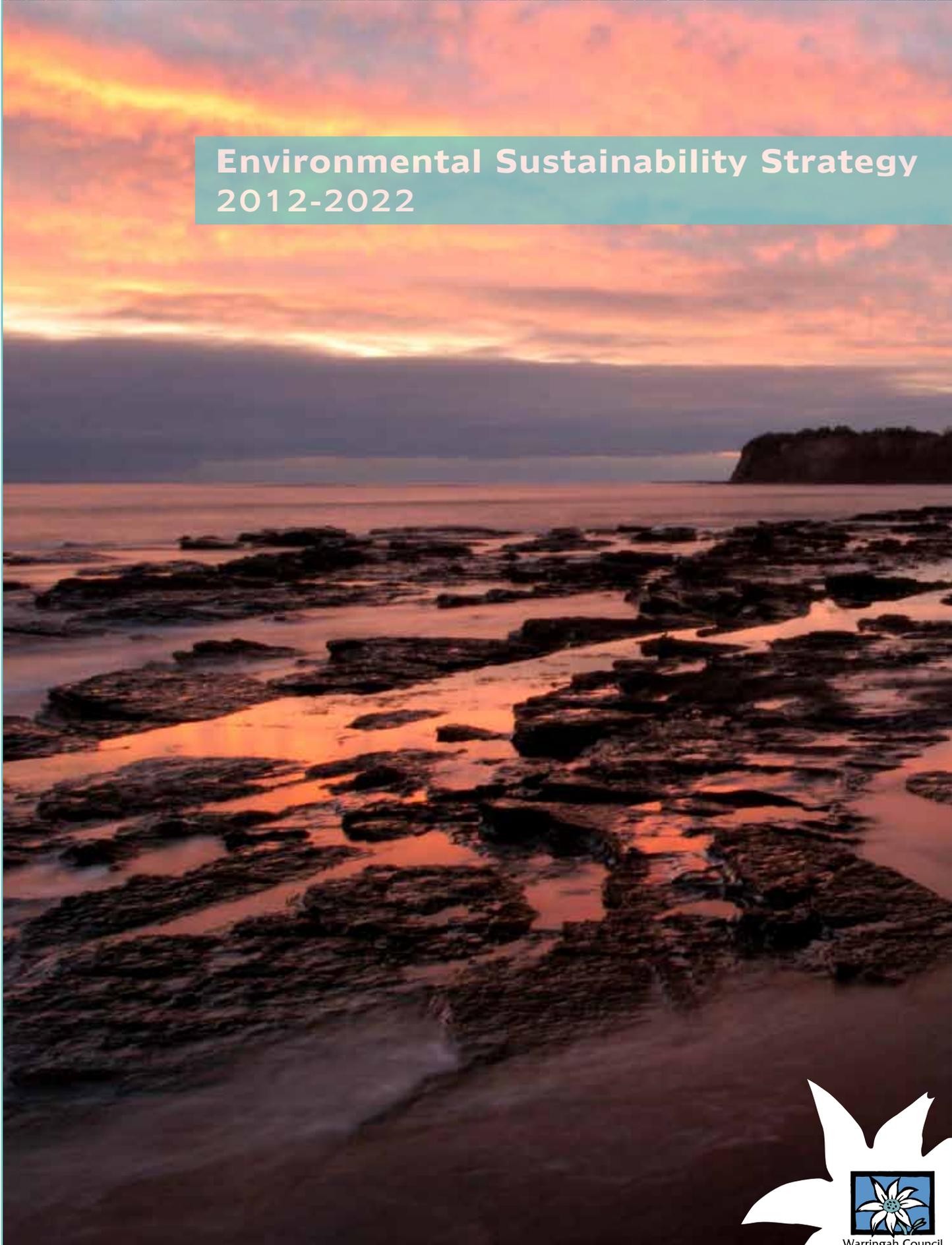




Environmental Sustainability Strategy 2012-2022



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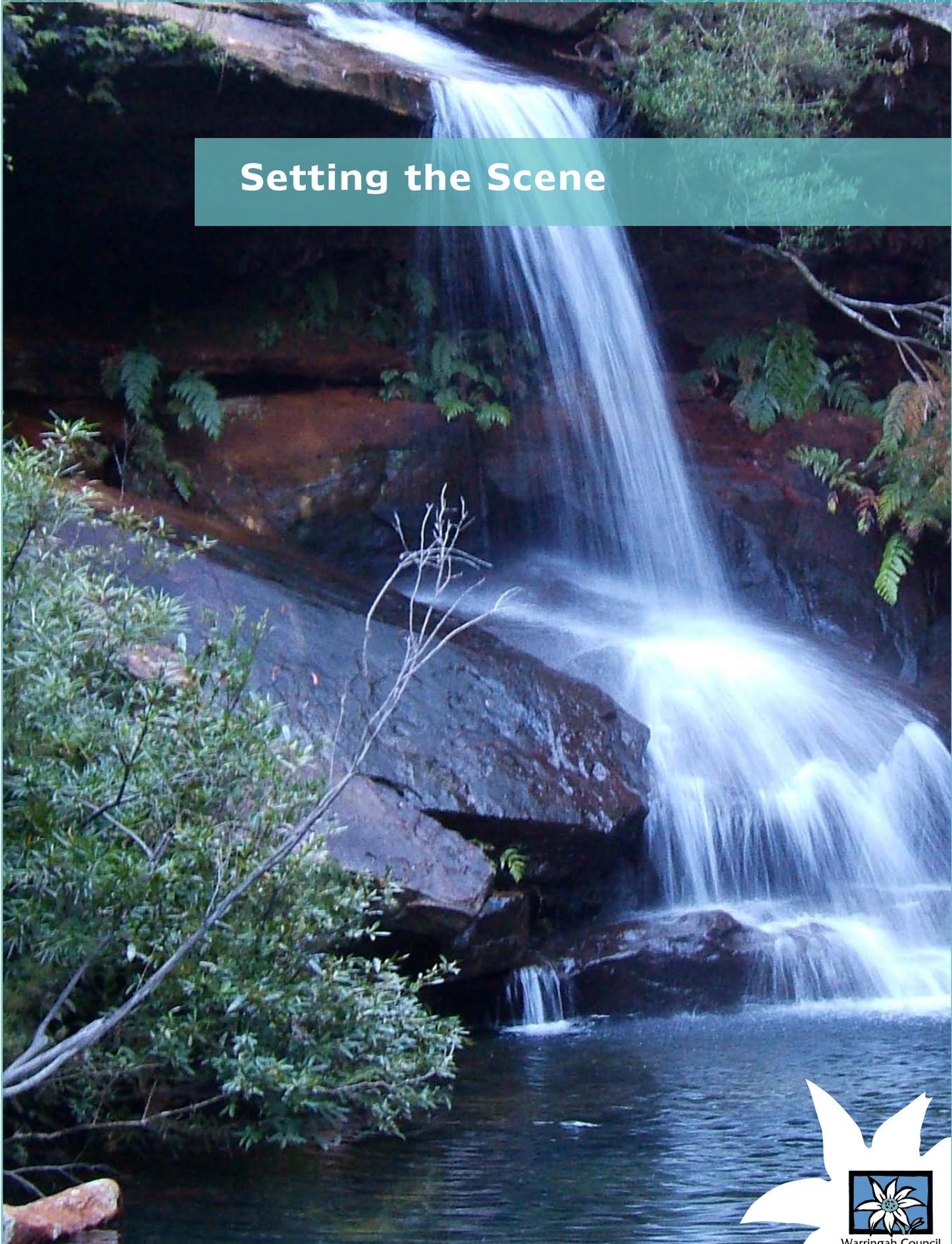
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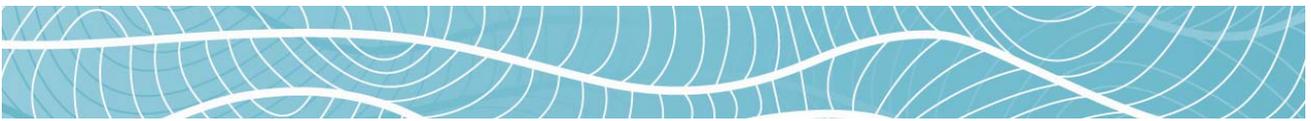
APPENDIX

Appendix 1:	Our Strategic Directions per Focus Area
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Setting the Scene





“A vibrant community, improving our quality of life by living and working in balance with our special bush and beach environment”.

This is the vision that more than 200 community members agreed on in 2009. Consultation with residents and stakeholders during the drafting of this Strategy confirm that this vision continues to define Warringah – what we do, how we live and how we should be planning for the future.

The Environmental Sustainability Strategy (ESS) takes its starting point in this vision and sets a long-term direction for how best to balance growth with the environmental, economic and social values of the Warringah community.

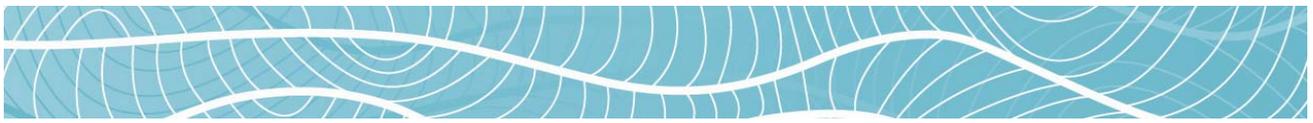
Focus groups and forums with members of the Warringah community helped shape the Strategy during the early stages of the project by highlighting core issues of concern as well as pointing to desired long-term outcomes.

This Strategy supersedes Council’s 2001 Environmental Strategy which primarily focused on natural resources and the environment. The inclusion of the word ‘sustainability’ in the title of this current Strategy emphasises that the issues of today are complex and are linked to broader societal issues.

The challenges ahead require a holistic approach. Based on projections determined by the State Government, Warringah’s population is expected to increase by an estimated 25,000 by 2030 – an increase of approximately 18% from 2011 (where the population was approximately 145,000 people). At the same time environmental pressures that are deeply related to how we live and work are increasing: climate change; pollution; erosion; loss of biodiversity; noxious weeds; stormwater run off; and floods and bush fires are some of the overriding and interrelated issues which must be managed carefully and with regard to future generations.

The Strategy is written as a long-term guiding document for Council. The purpose is to set overarching strategic directions for how Council approaches environmental sustainability: providing a ‘compass direction’ in contrast to plotting a specific route on a map. This adaptive approach allows flexibility and room for new knowledge to be continuously considered over the expected 10 year lifespan of the Strategy.

The Strategy will serve the dual function of forming the basis for Council’s annual environmental planning as well as being the basis for ongoing conversations with our community members and other stakeholders. We need to work collaboratively to make a positive difference and ensure the wellbeing of current and future residents and visitors to Warringah, as well as the health of our environment.



How to read this document

Working with the community, other councils and levels of government and with other key partners, we have done much already to address the deep environmental and societal complexities and have learnt important lessons along the way. However, there is still a long way to go if we are to halt, or better still reverse, negative trends and detrimental impacts on the environment that result from our current way of living and working.

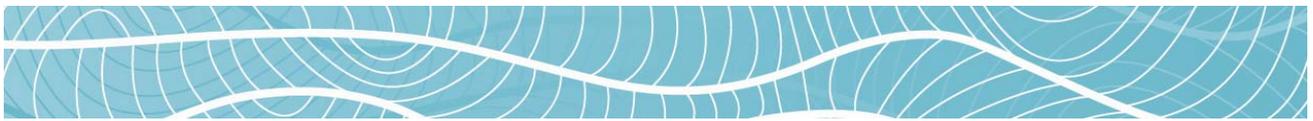
We cannot become environmentally sustainable without the active support of the Warringah community. In developing this Strategy we took care to take community members' views and concerns on board early in the project and by reviewing and researching the most effective ways of making a difference. We held a series of community workshops, general community meetings as well as youth forums to ask community members what they thought would be the most important environmental considerations for the decade ahead.

On this basis we have developed eight strategic directions that provide the basis for this Strategy, as outlined in the section "Our Strategic Directions". The strategic directions are comprised of 'commitments' and 'aspirations'. Commitments refer to target areas that are within Council's sphere of control, such as relating to corporate environmental performance. Aspirations signify areas where Council has only partial ability to influence outcomes and where partnerships with the community and other levels of government are particularly critical to our success.

The strategic directions are holistic targets that will require lateral thinking and cooperation. For example, to reduce greenhouse gas emissions, we need to change the way we live and work as well as examine ways of becoming more energy efficient.

For this reason, the Strategy has not been written as an action plan. The strategic directions provide guidance – they are not detailed and prescriptive targets to be 'ticked off' on a project level. The intention is to inspire and sustain positive change within Council as well as in collaboration with the community by focusing on the desired outcomes that we wish to achieve.

Each strategic direction relates to one or more focus areas as illustrated below:



Focus areas for setting outcomes: Each of the focus areas is structured similarly and includes three main parts:

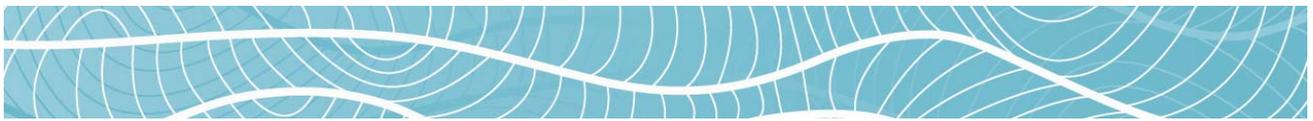
1. A short introduction outlining the key management challenges and our progress to date
2. Decision-making basis for defining the outcomes we are seeking and how these relate to our key directions
3. Our outcomes – the future we seek

Combined, this constitutes the overall management framework. Specific actions and projects will be derived from here as part of our annual business planning process as well as our operational plans and strategies. An overview of how our Strategic Directions are related to each of the focus areas is provided in **Appendix 1**.

Defining sustainability

The definition of 'sustainability' has evolved over the years. In 1987 the Brundtland Commission famously defined 'sustainable development' as development which meets the needs of the present generation without compromising the needs of future generations. Since then the definition has broadened to include concepts such as the 'triple bottom line' (environmental, economic, social) and 'corporate social responsibility'.

A contemporary definition of 'sustainability' describes an economy or organisation that delivers long-term value across triple bottom lines while making use of the five capitals (natural, human, social, manufactured, and financial) and helping us move towards becoming a safe, secure healthy, equitable world.



Guiding principles

The following principles are the foundation on which this Strategy rests.

Community engagement

Community engagement will form the cornerstone of all our environmental programs. We will use best practice principles to guide the delivery of education for sustainability through understanding the behavioural motivations of our community members.

Lead by example

We will lead by example and encourage other community stakeholders to commit to sustainability principles. We will learn from others' success and will design programs, policies, facilities and practices in line with leading practice.

Precautionary principle

We will regard the natural, economic and social environment in any long-term decision-making. If there are threats of serious or irreversible environmental damage, lack of full scientific certainty will not be used as a reason for postponing measures to prevent environmental degradation.

Best available science

Strategies and plans will enable the best available science to be incorporated and applied as it becomes available. Modelling will help inform decision-making.

Setting priorities for action

Priorities for new programs and initiatives will be based on assessments of the relative and long-term potential costs and benefits (financial and non-financial).

Continuously improving and evaluating projects and programs

Commitments will be monitored and evaluated on a regular basis. Results will be used to inform and adjust our environmental projects and initiatives.

Sustainable funding

We will prioritise funding according to evidence-based strategic directions, identified needs and whole-of-life costing. Funding decisions will take a long-term view.

Staff capacity

Our staff will be provided with appropriate training and mentoring to enable sustainable delivery of the outcomes in this Strategy.

Fit for purpose

Our design of assets will integrate quality and risk-management standards appropriate for their intended use – they will be designed to fit the purpose for which they serve.

Place planning

We will build strategic relationships with property owners and residents, local businesses, community groups and agencies so that our management of places and the delivery of services to local communities in these places reflect their needs and aspirations.

Integration and holistic planning

We will ensure that environmental programs are integrated with our other strategies and planning instruments and with other agencies and stakeholders.



Warringah's Environment – a snapshot from 2011



Warringah is situated on the lands of the Guringai people. We acknowledge the Guringai as the original custodians of this coastal area, bordered to the south by Port Jackson (Sydney Harbour), to the north by Broken Bay and to the west by the Lane Cove River. Warringah encompasses a total land area of 152km², of which a large proportion is National Park, bushland or reserves, including coastal foreshores, beaches and waterways. Warringah's unique environment contributes to a distinctive sense of place and quality of life for its approximately 145,000 residents.

Warringah's **coast and waterways** are deeply valued features of the natural environment. We are proud of our:

- 14km of coastline, including nine coastal beaches
- Seven catchment areas which contain four lagoons, a portion of Middle Harbour and an extensive network of creeks

Warringah covers close to 9,000 hectares of natural bushland and open space with many features of cultural and heritage significance including:

- Nearly 400 identified Aboriginal significant sites
- More than 400 identified species of native animals
- Nearly 40 different vegetation communities
- More than 900 identified species of native plants

Warringah has 140 recorded endangered and vulnerable threatened species and ecological communities. These include animals, plants and ecological communities as well as migratory species that use our habitats seasonally. All are protected under the *NSW Threatened Species Conservation Act 1995*. Some species are of national significance and protected under the Federal Environment Protection and Biodiversity Conservation Act (1999).



Long term partnerships

This Strategy is founded on a guiding principle that community partnerships and engagement will form the cornerstone of long-term environmental programs in Warringah. Genuine partnerships will foster and sustain positive change in the long run as it will build the capacity of both parties to work together creatively.

The mutual benefits of partnerships are many and varied and include: exchange of knowledge and skills; innovation and efficiencies; networking and funding opportunities; replicable models for addressing community needs and managing resources; options for organisational management and governance; and strategies for advocacy, government relations and public outreach. Partnerships may also create synergies and opportunities for cost savings on some programs through sharing of experiences and overhead costs.

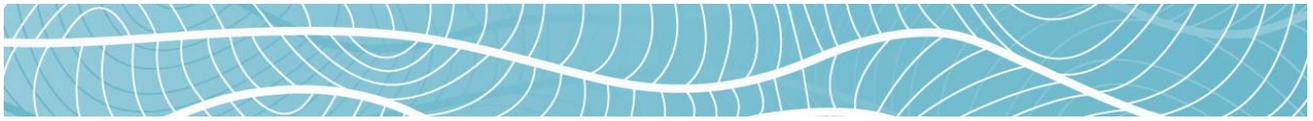


In areas where Council's opportunities for determining outcomes are relatively restricted – such as in regards to transport planning and provision, which mainly is a state government responsibility - we will advocate with and on behalf of the community on their priorities. A key foundation for this advocacy role will be to forge strategic alliances with other councils, community groups, not-for-profit organisations, businesses, peak bodies and other tiers of government. This will give us a better basis for negotiations over funding, project planning and implementation.

Our partnership with SHOROC councils (Manly, Mosman, Pittwater and Warringah) has resulted in a solid platform for a regional approach to transport, energy, climate change, ecologically sustainable development, waste, water, biodiversity, and skills and capacity building. The SHOROC action plan *Shaping our Sustainable Future* (SHOROC 2011) documents this approach and highlights areas where regional cooperation is essential to successful outcomes.

There is also an opportunity to partner with community organisations to access funding from grant programs offered by the state and federal governments and private charitable foundations. For example, the Sydney Coastal Councils Group publishes an annual Funding Guide which lists over 100 funding opportunities available to councils and their stakeholders.

Partnerships may also provide a basis for joint venture projects or programmes. For example, our partnership with Brewarrina Shire through the Sister Cities Program could form the basis for collaborative environmental projects and investments.



Opportunities

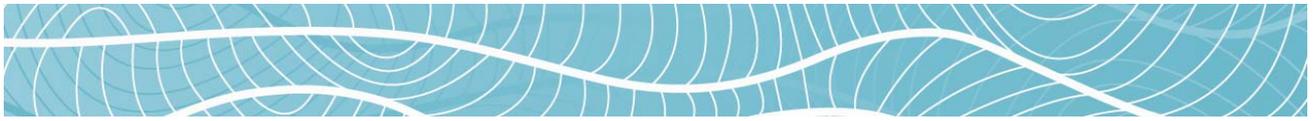
Our Community Engagement Framework (2011) formalises our commitment to partner with the community and other key stakeholders on important projects, and to build our own capacity to manage such partnerships in a genuine and transparent way.

We have identified the following key opportunities to create stronger partnerships with the community and other stakeholders:

- Our Economic Development Plan and similar projects may provide a good basis for building 'beyond-compliance' relationships with local developers and landholders.
- A solid community commitment to protecting our environment could be further encouraged and supported through existing and new volunteering programs where we may play a coordinative role.
- Capacity building programs may further enhance the use of our Community Engagement Matrix and Community Engagement Toolkit.
- Established consultation forums, such as the community-based Strategic Reference Groups, form a good foundation for long-term partnerships with representatives from the community.
- New media (eg. social media), tools and techniques may be used and combined in different ways to better engage with the community on flexible terms, particularly in terms of liaising with youth and with 'time-poor' residents.



Our Strategic Directions



Our Strategic Directions

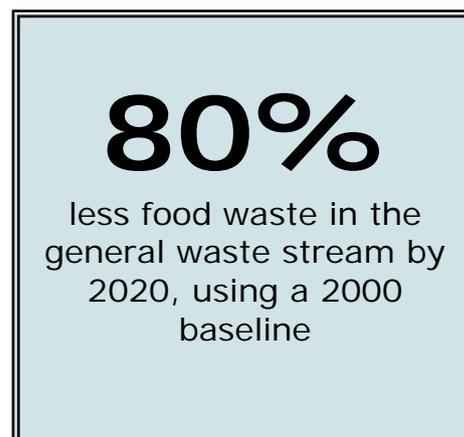
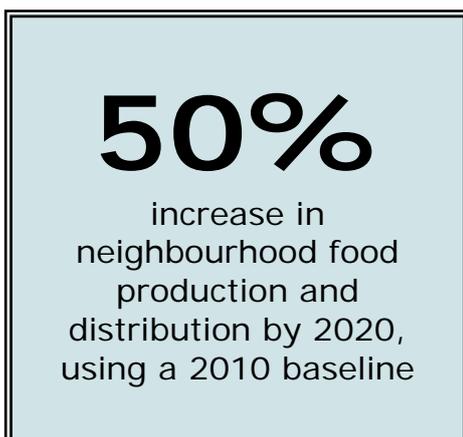
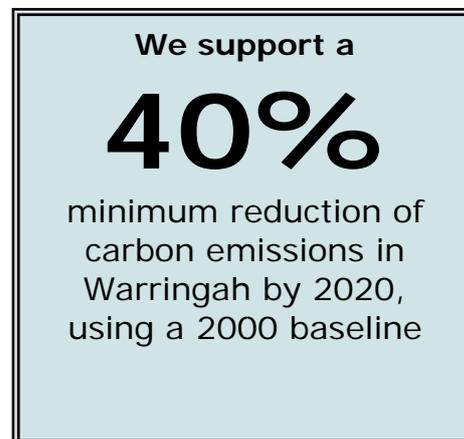
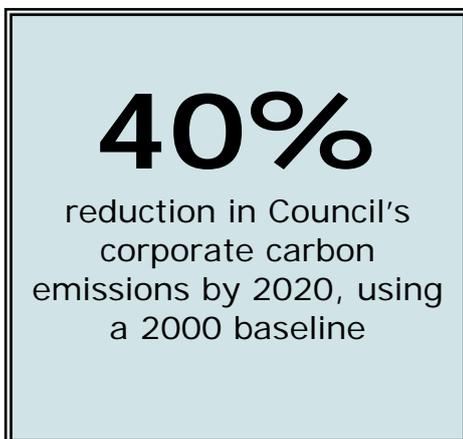
Council has set eight strategic directions to inspire change and guide our progress in the long term. We distinguish between two types of strategic directions:

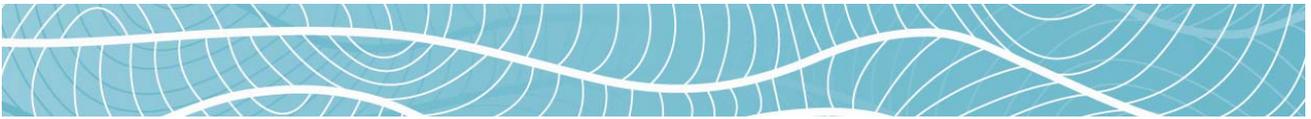
Commitments – these targets relate to Council operations and are within our sphere of control. They are highlighted in **green** below.

Aspirations – these targets relate to areas where Council has only partial ability to influence outcomes and where partnerships with the community and other levels of government are critical to our success. These are highlighted in **blue** below.

Appendix 2 provides an overview of how we will track our progress – including frequency of measurement and the expected sources of data for these indicators.

Commitments





Aspirations

Maintain and enhance

locally indigenous
biodiversity in Warringah

Maintain and enhance

waterway function in
Warringah

Minimise

the risk to life, property
and the environment
from natural hazards
through partnerships
with other levels of
government and the
community

Protect

the natural and cultural
values of Council-
managed lands while
ensuring that visitor
access and use is
sustainable



Implementation and Evaluation Framework

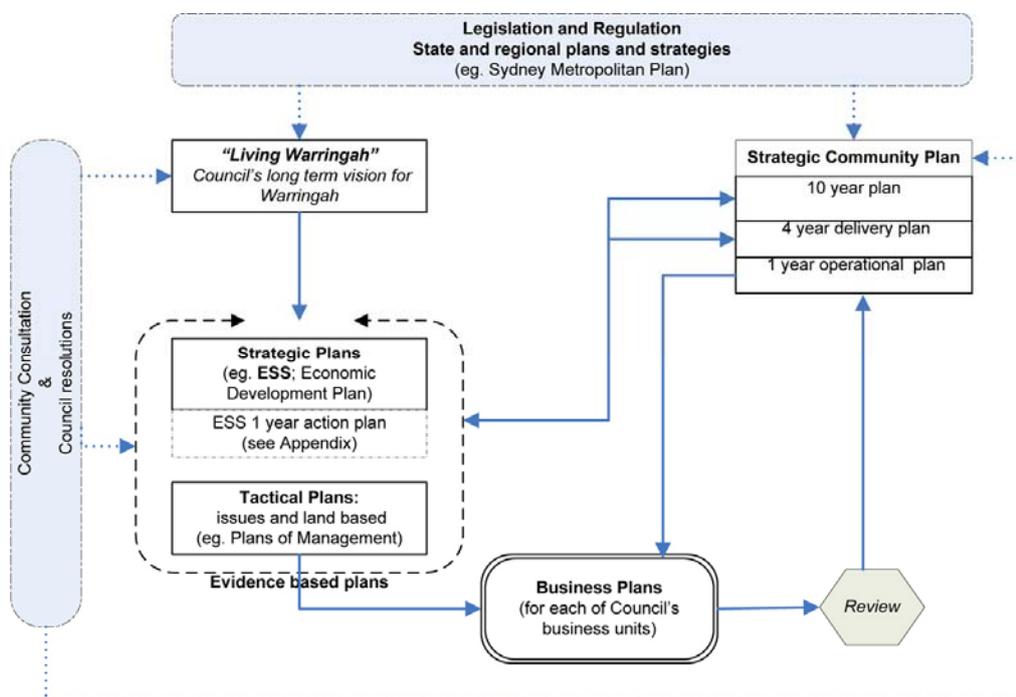
The Strategy is intended to provide a 'big picture' overview of outcomes that we wish to achieve in the long-term and the strategic directions that will guide us. Shorter-term actions and detailed prescriptions on *how* we will progress, *what* projects to implement and *when* - will be derived from this Strategy as an integral part of our annual business planning framework.

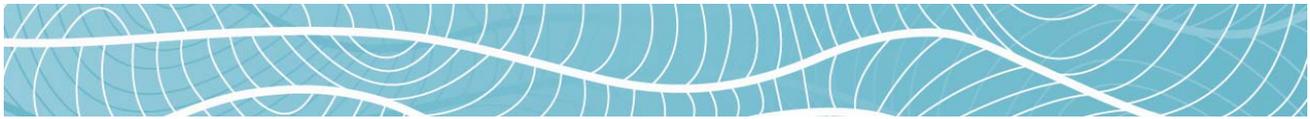
We will monitor progress and effectiveness of the Strategy on the basis of our business planning framework and cycles. Our implementation and evaluation framework is best described in terms of three key principles to our approach and described in more detail below:

- **Inform and provide direction:** placing the Strategy within our organisational and operational context to ensure integration and synergies between programmes, projects and general council operations and provision of services and assets.
- **Alignment of reviews within our planning cycle:** timing our review and monitoring of progress of the Strategy to take advantage of Council's annual and four yearly review processes.
- **Pragmatic approach:** making sure that measurement of progress provides a good, effective and cost-efficient basis for further decision-making.

The Strategy will be reviewed in context of how well the Strategy guides and provides direction to our overall planning and delivery of assets and services. This includes reviewing how effective the Strategy is as a 'filter' for identifying and implementing programmes and projects.

The diagram below illustrates how the Strategy is placed within Council's business planning framework:





This Strategy is part of a ‘family’ of evidence based plans consisting of strategic plans and tactical plans respectively. Strategic plans are best described as plans that affect the whole of Council – such as this Strategy or the Economic Development Plan. By contrast tactical plans are mainly thematic or land based in their focus and approach – examples include estuary/ floodplain management plans, local habitat studies and plans, or studies such as the “Warringah Biodiversity Conservation Study”.

The evidence-based plans are informed by the Strategic Community Plan (SCP) which consists of a 10 year visionary plan; a 4 year delivery plan; and an annual operational plan which spells out which projects and initiatives Council will be undertaking in that year.

In this process strategic and tactical plans become the main ‘filter’ for deciding which projects or initiatives to undertake in that year. **Appendix 3** provides a template for an annual action plan which will be updated yearly with the projects from the annual operational plan that relate to this Environmental Sustainability Strategy.

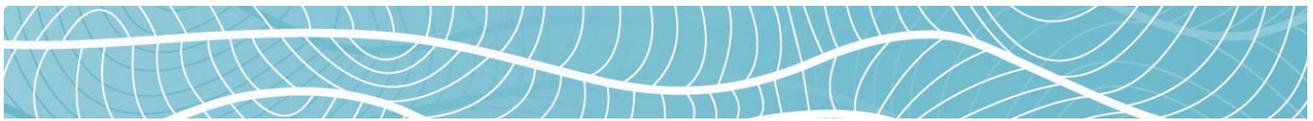
This Strategy is also informed by our “Living Warringah” (2005) strategic document which, in tandem with the Strategic Community Plan, sets the overall vision for how we will live, work and protect our natural environment over the next 10 years.

Alignment with our Business Planning Cycles

The Environmental Sustainability Strategy will be reviewed in alignment with our annual and four-yearly business planning cycles in order to ensure that any factors that may influence our strategic directions and outcomes are considered as part of the evaluation of the Strategy.

Table 1: Evaluation overview

Timing/ business cycle	Evaluation type	Key focus of review in regards to the Strategy
Annual	Review of annual operational plan	Reporting on project indicators, measurements and outcomes, including projects and initiatives identified through the Strategy on an annual basis.
4 yearly	SCP delivery plan	Reporting on progress against strategic directions relative to the Strategic Community Plan priorities.
ca. 2016	Mid term review of ESS	<p>Assessment of the condition and performance of receiving environments and our assets and services.</p> <p>Assessment of the ESS in terms of being able to provide organisational direction and a shared frame of reference in our partnerships and conversations with the community.</p> <p>Evaluation of currency of the ESS in terms of scientific basis, technological development and demographic and other societal trends.</p>
4 yearly	SCP delivery plan	Reporting on progress against strategic directions relative to the Strategic Community Plan priorities.
ca. 2021 (if not earlier)	End of term review of ESS	Whole of Strategy review, including effectiveness identification of future initiatives.



Pragmatic Approach

By setting broad directions and outcomes that are not prescriptive, this Strategy allows a holistic approach to inter-related issues and dependencies which will translate into specific programs aimed at achieving our outcomes.

Our strategic directions are complex and stretch across several areas – for example, a reduction of food waste would have an impact both in terms of protecting our bushland and waterways by minimising landfill as well as an impact on climate change through a reduction in greenhouse gas emissions.

There are inherent scientific challenges associated with measuring and monitoring complex environmental concepts which, as the example above shows, cannot easily be compartmentalised. For example, to monitor 'biodiversity' in its complexity would require a suite of measurable indicators such as number of species, types of natural habitat, ecosystems and their function, threatening processes, threatened species etc. It is beyond the scope and intent of this Strategy to provide that level of detail. We will focus on the bigger picture and will monitor our progress against our strategic directions pragmatically, using tactical plans and studies such as the Warringah Biodiversity Conservation Study (2011) and the Warringah Natural Area Survey (2005) as research basis for measuring progress.

**Focusing on outcomes,
not obstacles**





Climate Change

As a coastal community with low lying areas surrounded by significant stretches of bushland, Warringah is vulnerable to the effects and impacts of climate change. Extreme weather events such as heatwaves and storm surges pose natural hazards and risks such as flooding and bushfires and have a direct bearing on the wellbeing of people.

This section focuses specifically on climate change adaptation and mitigation directions. The following section, '**Sustainable Living and Working**', will focus on the behavioural patterns that underpin climate change mitigation and the section on '**Natural Hazards**' takes into account extreme weather events resulting from climate change.

Climate change relates to everything we do – how we live and work – as all consumption is intrinsically linked to energy usage. We have an important role in reducing emissions, particularly by showing leadership in terms of reducing our own corporate carbon footprint. However, some key areas, such as public transport and household energy supply and use, fall beyond our direct control. Here we must collaborate with the community to lobby state and federal governments for change.

The root causes of climate change are complex, global issues relating to primarily to population growth and consumption patterns. On a local scale, this gives rise to the following key challenges in Warringah:

Key Challenges

- Balancing a growing population in Warringah with protection of environmental and social values
- Managing health and wellbeing risks associated with rising temperatures
- Conserving energy and water to address population growth, climate change and increased costs, thereby reducing the area's contribution to carbon emissions
- Ensuring security of food and water supplies
- Addressing potential impacts to energy supply during heatwaves where demand for air-conditioning increases
- Addressing social equity issues related to the increased cost of energy and water
- Mitigating risks of inundation of urban areas and erosion of coastlines
- Shading and cooling of urban areas where the heat retention of hard surfaces results in higher than average temperatures
- Rapidly growing and changing technical and policy positions



Climate change mitigation

In 2001, Council adopted a Corporate Greenhouse Gas (GHG) emissions reduction goal of 20% on 1995 levels by 2010. We recommitted to this goal in 2003 through our Sustainable Energy and Local Greenhouse Strategy which extends the scope of the goal to include the Warringah community broadly.

Our corporate performance against this goal (20% reduction on 1995 levels by 2010) shows that between 2000 and 2007 we reduced our emissions by nearly **2,300** tonnes of greenhouse gasses. This is the equivalent of taking 630 cars off the road for a year. Despite this achievement we still overshoot our goal by around 8,000 tonnes of greenhouse gasses. In 2010, emissions were approximately 45% above the 1995 baseline. This highlights the need for setting realistic and evidence based targets.

In recognition of the shortcomings of the initial (2001) target of 20% on 1995 levels by 2010, we commissioned a review¹ in 2009 to identify appropriate and evidence-based parameters for setting carbon reduction targets.

The research and recommendations from the review form the basis for our adoption of a **corporate emissions reduction goal of 40% on 2000 levels for the period 2010 to 2020** as per Council's resolution in 2009.²

This goal does not include community emissions because we are limited in our ability to directly influence private fuel use and energy used in homes and businesses. However Council has also resolved to *support* community action towards a 40% reduction in community emissions by 2020 on a 2000 baseline. This will include advocating for sustainable transport and support for sustainable living measures as detailed in the section on Sustainable Living and Working. **Appendix 4** provides a snapshot of community greenhouse gas emissions per source of emissions in the Warringah local government area in 2008/09.

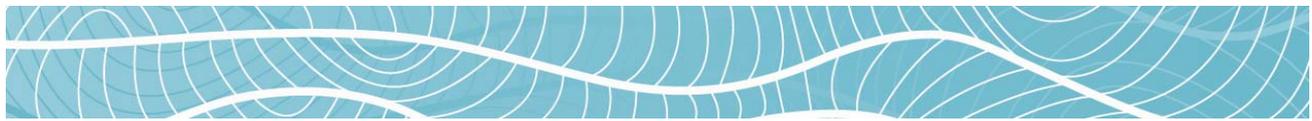
Climate change adaptation

Adaptation to inevitable climate change must complement measures to mitigate our GHG emissions. In 2009 we completed a risk assessment of climate change impacts for the Warringah LGA.³ The risk assessment looked at various climate change scenarios – initially modelled by CSIRO and the Intergovernmental Panel on Climate Change. The report also documents what adaptation strategies will need to be implemented in the near future and within the life of this Strategy. These strategies will be integrated with our Enterprise Risk Management Framework and will form the basis of what we will do to manage and respond to the impacts of climate change.

¹ Hyder Consulting (2009) *Evidence-based greenhouse gas emission targets* Report to Warringah Council

² This target covers Scopes 1 and 2 under the National Greenhouse Emissions Reporting Scheme.

³ Hyder Consulting (2009) *Initial climate change risk assessment and adaptation action plan* Report to Warringah Council



Strategic Directions – Climate Change

The commitments and aspirations that directly relate to climate change are:

- 40% reduction in our corporate carbon emissions by 2020, using a 2000 baseline
- We support a 40% reduction of carbon emissions in Warringah by 2020, using a 2000 baseline

The outcomes we seek, and the changes we will initiate are:



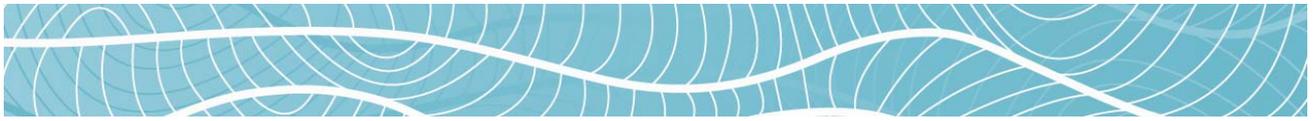
Reduction of carbon emissions in the Warringah community

- Promote and support sustainable transport
- Integrate sustainable living principles and practices into our planning
- Investigate and support opportunities for distributed energy generation
- Empower the community to reduce overall energy consumption through education, community engagement and other appropriate methods
- Promote opportunities for the residential and business sectors to participate in state and federal government emissions reduction programs
- Improve our capacity to access reliable monitoring and modelling data for Warringah
- Utilise regional networks to lobby for further action by the state and federal governments in relation to energy saving and carbon emissions reduction
- Explore options for the establishment of a local 'green economy' in collaboration with the Warringah business and industry community



Reduction of Council's dependency on fossil fuels

- Continue to invest in energy efficiency technologies and clean energy sources for our buildings and assets
- Utilise alternate technologies and fuels for our vehicle fleet
- Utilise carbon offsets where alternative mitigation options are not feasible
- Integrate energy and water monitoring and reporting into our business and financial reporting and management
- Reduce and/or offset carbon emissions from Kimbriki Resource Recovery Centre
- Ensure comprehensive monitoring of our carbon emissions
- Assess the suitability of our open space for carbon sequestration projects



Improved decision making basis

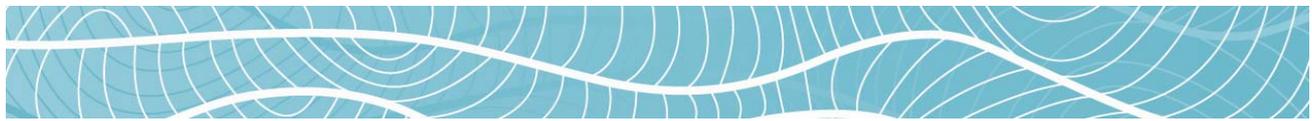
- Consider social, environmental and economic impacts as part of an integrated response to climate change across all our operational and service areas, including land use planning, infrastructure planning, community wellbeing and public health
- Integrate climate change risk planning into our existing Enterprise Risk Management Framework
- Research and report on the Warringah community's exposure to climate change in partnership with state and federal governments, local councils and other stakeholders



Implementation of joint climate change projects

- Identify options for, and review feasibility of, potential renewable energy projects with other parties, such as community organisations or other councils including 'Sister City' councils





Sustainable Living and Working

The population in Warringah is increasing, consumption levels are rising, and pressures on natural resources and spaces intensifying. With limited science available regarding the carrying capacity of the local government area and broader region, it is important to research how best to holistically plan for the future population growth. The challenge is to accommodate an increasing demand for housing, employment and ancillary services in our urban environment as well as manage demand and use of Council's open space and natural resources.

This also challenges us as individuals to change the way we think and act: our behaviours and consumption patterns have a significant bearing on some of the core causes of the environmental problems facing us today.

Sustainable living and working is one of the areas where we as individuals can contribute to long-lasting change. However, we rely on governments, businesses and other organisations to provide us with the opportunity for living and working sustainably. For example, we can only leave the car at home if there are other options for travelling which do not impact as severely on the environment.

Traffic congestion and poor public transport linkages continues to be an issue that Warringah community members identify as being a priority. Residents have clearly singled this out as the most important issue for Warringah over the next 5-10 years in recent community surveys and consultation meetings.⁴ While local government only has a limited direct role in terms of delivering better public transport, we may advocate and lobby for better long-term solutions. We can also support change through provision of facilities and services that may encourage uptake of more sustainable modes of transport (such as providing infrastructure that supports public transport for example bicycle lanes, park & ride, bus shelters).

Key Challenges

The key challenges faced by us over the next 20 years are closely related to the forecasted population growth and the economic, social and environmental issues that accompany that growth. Some of the key management challenges in terms of reducing the pressures on our environment and the resources we use include:

- Responding to increased car use and its consequences. Including increased congestion, air and noise pollution, injuries to people and wildlife and an increased carbon footprint
- Providing more opportunities for housing within convenient cycling and walking distance of established public transport routes, shops and other services
- Encouraging employment closer to residents so that travel times are reduced, there is less demand on peak-hour transport infrastructure and services and carbon emissions from transport are reduced
- Dealing with the local implications of increasing consumption of resources (including at the global and local scales) and the rising costs of unsustainable resource consumption and the resulting waste
- Dealing with an increasing population and its consequences, including increased pressure on natural areas that possibly may result from increased recreation use
- Understanding and dealing with 'barriers' that prevent local businesses and households adopting behaviours consistent with sustainability principles

⁴ 2007 to 2010 Community Surveys, Warringah Council



Sustainable Living in Warringah

Council actively seeks to create awareness of sustainable living practices through programs and events such as World Environment Day Community and Schools Expos (2005-08), Hilltop to Headland Lecture and Workshop Series, Eco Schools Program, Climate Challenge and Waste Education projects and the Eco News quarterly e-newsletter.

We have made significant inroads in terms of improving our corporate environmental performance, implementing new and more sustainable policies and standards for the construction and maintenance of assets and the procurement of external products and services; ensuring a more energy efficient vehicle fleet; and establishing and implementing energy and water savings plans for our facilities. We promote the principles and practices of sustainability internally through the establishment of mandatory training programs in environmental management.

The sustainable living outcomes that focus on the Warringah community as a whole are based on the following key areas in this section. Energy, which is a core aspect of sustainability broadly, is dealt with in detail in the previous section 'Climate Change':

- Food waste
- Neighbourhood food production and distribution
- Supporting local industry
- Sustainable building design
- Sustainable transport
- Water consumption
- Sustainable procurement

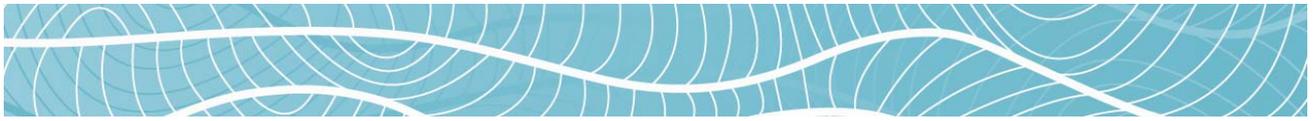


Food waste

Waste management in Warringah is designed to encourage waste avoidance and reduction, prevent littering and illegal dumping, recover resources and prevent and avoid hazardous materials. In 2009, Warringah's waste service was improved to make it easier for residents to recycle and minimising waste going to landfill. Although the population has increased by more than 2% since 2007/08, the total waste to landfill has decreased by 4% and the recycling rate has increased to 55%.⁵

Council will seek to recover food waste from the kerbside waste collection and recycle this waste through a commercial composting scheme. Progress in food waste recycling would be assessed through regular audits of the collection and recycling process.

⁵ SHOROC (2010) *State of the Environment Report 2009-10*



Neighbourhood food production and distribution

The production, distribution, processing and consumption of food present one of the largest sources of greenhouse gas and carbon production. At the same time, it presents an opportunity to shift towards a more sustainable future.

Neighbourhood food production encompasses areas where fresh produce is grown. It may occur on private land (vegetable gardens) or in public areas (community gardens). Warringah's first community garden was established in Manly Vale in 2010. Council has since formalised its approach to community gardens with the adoption in 2012 of a policy and supporting guidelines for establishing communal gardens in Warringah.

Encouraging residents to grow their own food and to buy 'local' will enhance our local food assets. Examples of neighbourhood food initiatives include developing additional community gardens, extending educational programs such as those run by Kimbriki, providing support measures such as workshops, school programs and the sale of compost bins and worm farms.

Local industry

We will be working collaboratively with our business community to improve awareness and uptake of sustainable business practices and cleaner production programs. We will be utilising existing forums such as trade nights to promote opportunities for businesses to become more sustainable – financially as well as environmentally – in the long-term.

The Economic Development Plan for local business in Warringah and Pittwater contains measures and initiatives to support the sustainable development and practices of businesses in the area.

Sustainable building design

Commercial buildings are responsible for approximately 9% of Australia's greenhouse gas emissions and those emissions have grown substantially over the last decade.⁶

Council promotes integrated, whole-building design that is energy efficient in design, materials and function and which considers opportunities for zero or low energy generation as well as re-use of energy, water and materials.

Sustainable design encompasses the following key principles:

- Identification of building life-cycle impacts so that the full environmental impact of development is identified and opportunities for resource efficiency are maximised
- Increased awareness of green building benefits and recognise and reward environmental leadership
- Future-proofing design so that a building's potential vulnerability to extreme weather are identified and managed

⁶ <http://www.gbca.org.au/green-star/background/2140.htm>



Sustainable transport

In 2009 we resolved to develop a 'Sustainable Transport Strategy' for the community and staff. The aim of the strategy was to reduce private vehicle use and encourage public transport and alternative transport, such as walking and cycling, when travelling in Warringah. This will complement existing measures and programs such as the SHOROC *Shaping our Sustainable Future* Action Plan, Warringah Bike Plan, Pedestrian Access and Mobility Plan and the Bus Shelters Program.

Water consumption

In 2009/10 Warringah residents and businesses consumed 11,963,629 kilolitres of water.⁷ This was slightly above consumption recorded for the previous year but consistent with a trend of declining water consumption over the previous decade.

Effective and long-term water management is vital for the continued health and wellbeing of our eco-systems and community. With additional pressures on water resources associated with a growing population and changes in weather conditions, we must look at transforming our traditional water management approach to ensure a safe, reliable and diverse water supply while improving water quality. To this end, we have prepared a draft Integrated Water Cycle Management Strategic Plan to enhance water management outcomes and ultimately improve water security and waterway health, both locally and regionally.

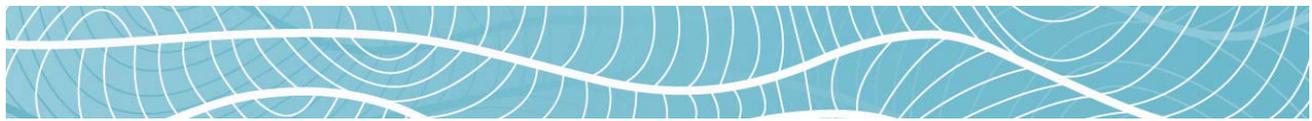
We commissioned the Strategic Planning for Integrated Water Cycle Management project in 2010 with the aim of enhancing our organisational and institutional capacity to deliver economically, socially and ecologically sustainable environmental and stormwater management outcomes. The project will trial, test and implement Integrated Water Cycle Management in Warringah and is intended to deliver a new strategic operational model and policy, leading to integrated and consistent water cycle decision-making.

Sustainable procurement

Council procures a wide range of products and services. By making informed purchasing decisions, we can dramatically reduce water and energy consumption, as well as the amount of pollution, waste and greenhouse gas emissions we generate. In many cases, long-term cost savings are also possible.

We will also strengthen our supply-chain partnerships so that the products and services of our suppliers become more sustainable and that staff can make purchasing decisions based on an understanding of the upstream and downstream environmental impacts of their decisions.

⁷ SHOROC State of the Environment Report 2009/10



Strategic Directions – Sustainable Living and Working

The commitments and aspirations that directly relate to sustainable living and working are:

- 40% reduction in Council's corporate carbon emissions by 2020, using a 2000 baseline
- We support a 40% minimum reduction of carbon emissions in Warringah by 2020, using a 2000 baseline
- 50% increase in neighbourhood food production and distribution by 2020, using a 2010 baseline (this includes private gardens as well as community gardens)
- 80% less food waste in the general waste stream by 2020, using a 2000 baseline

The outcomes we seek, and the changes we will initiate in Warringah broadly are:



Smaller ecological footprint

- Enhance methodologies for measuring and tracking progress in reducing the ecological footprint of the Warringah community
- Commission research, in collaboration with our SHOROC partners, on the carrying capacity to support a sustainable human population on the northern beaches. This research should also form a basis to engage with the community on sustainable population and how best to approach issues and opportunities associated with population growth
- Work with the community to enable more environmentally sustainable practices, especially in households, businesses and schools
- Ensure that projects, such as local food initiatives for example community gardens and the establishment of home vegetable gardens, are supported in line with community need and interest



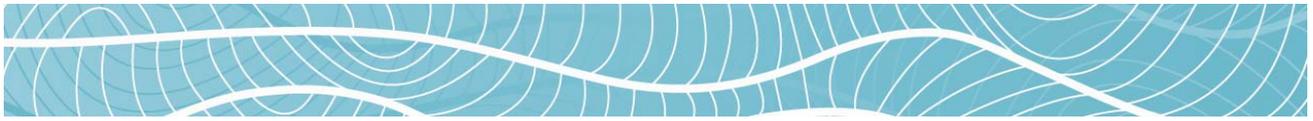
Less waste to landfill

- Reduce impact on landfill through waste avoidance and recovery
- Recover food waste from the general waste stream through a separation process at an approved waste facility



Sustainable businesses

- Engage with our local business to provide opportunities and incentives for cleaner production and sustainable practices
- Integrate cleaner production principles and practices in our Environmental Assessment Strategy for local industry
- Ensure that economic development addresses the potential for additional growers' markets in Warringah
- Work with local businesses and residents so that there is accessible and timely information about sustainable food and how it can be obtained in the local area



Sustainable design principles for the built environment

- Lobby state and federal governments so that contemporary planning and design principles regularly inform planning controls
- Investigate the provision of development incentives for buildings that deliver high environmental performance
- Partner with the commercial sector to promote the benefits of sustainable design to local businesses and developers
- Undertake strategic environmental assessments to consider whole-of-life impacts on residential and employment lands in relation to impacts on natural systems, transport and social infrastructure



Expansion of sustainable transport options

- Work with the community, businesses and the state government to increase trips using public transport, electric or hybrid vehicles, or non-motorised transport
- Consider planning incentives that would enable low-carbon or low-polluting vehicles to become a bigger proportion of the local vehicle fleet



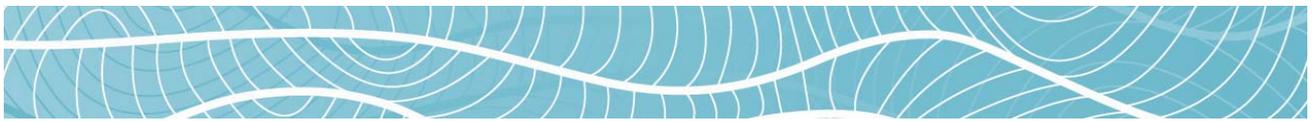
Improving environmental compliance

- Encourage compliance with conditions for developments within or adjacent to natural areas
- Communicate compliance requirements for these developments more effectively
- Investigate and implement financial incentives for developers to move 'beyond compliance', where feasible
- Ensure adequate resources to monitor developments to ensure compliance with consent conditions



Street trees protected

- Complete a comprehensive inventory of street trees so that street trees are integrated into our asset management planning
- Look for opportunities to plant species that can meet specific 'sustainability' needs such as wildlife habitat provision, local food gardens and shading
- Assess the implications of the rollout of the National Broadband Network for Warringah street trees and implement response measures as required



The outcomes we seek, and the changes we will initiate in Council are:



A more environmentally sustainable Council

- Continue to pursue energy and water savings at our existing and new facilities, including the uptake of distributed energy and water supply options such as renewable or low-emission technologies and water harvesting and recycling
- Increase the proportion of recycled/sustainable products in our project delivery and operations
- Improve waste separation rates at all our facilities particularly for recyclables and food waste
- Promote and encourage other forms of 'to work' and 'within work' travel including car-pooling, cycling, teleconferencing, telecommuting and public transport
- Understand the skills' sets required for staff in the area of sustainability across all our operations and develop programs to close any skills' gaps
- Implement a governance structure to emphasise integrated water management as core Council business
- Align our water policy with regional direction and statutory requirements





Natural Hazards

Warringah's landscape is environmentally sensitive and exposed to natural hazards such as storm surges, beach erosion, bush fires, landslip, heatwaves, hail storms and flooding. The landscape character may also constrain land use, for example the region has areas with high landslip potential, relatively unstable and highly erodible soils and coastal erosion hazards.

Climate change and associated extreme weather events is anticipated to exacerbate current natural hazards. The coastline and flood-prone areas are particularly vulnerable to climate change risks as a result of increased storm activity and sea level rise, as well as increased erosion activity and cliff instability. Climate change may also increase the risk of bush fire to human settlements and natural areas due to changes in rainfall and temperature levels.

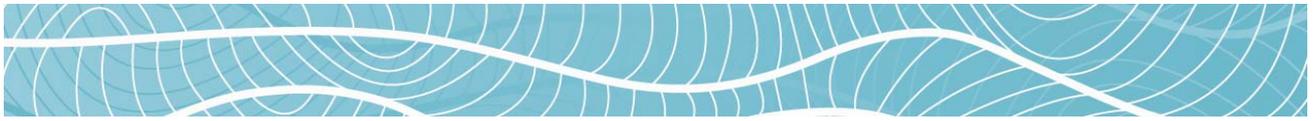
Key Challenges

- Accurately identifying, prioritising and managing risks to people and property in Warringah
- Improving the decision-making basis through collecting and consolidating reliable scientific data and evidence relating to climate change and natural hazards
- Managing the potential exposure of existing infrastructure to current and future hazards
- Reviewing and coordinating current hazard planning and management systems, standards and processes across all levels of government and their agencies
- Managing impacts of ecological fire regimes
- Establishing clear accountabilities across all levels of government in the preparation and communication of emergency management arrangements
- Clarifying roles and responsibilities (public/private) regarding protection of private property in regards to natural hazards
- Managing any impacts of hazard management on natural areas

Our approach to managing natural hazards is integrated into Council's Enterprise Risk Management Framework and Business Continuity program. Natural Hazards and their appropriate management are also considered and integrating within Council's environmental management approach generally – for example in terms of balancing bushfire risks and management (eg. back-burning) with environmental conservation values.

Our management approach falls into four key areas as described below:

- Coastal erosion
- Bush fires
- Flooding
- Geotechnical



Coastal Erosion

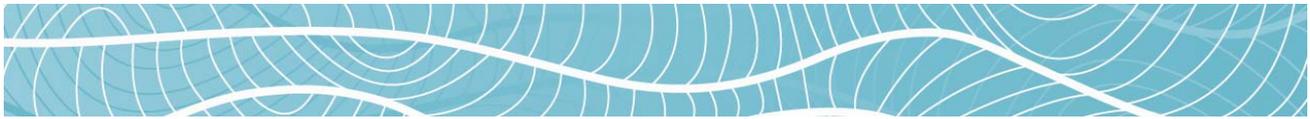
Coastal storms have caused damage to public and private property and assets along the Warringah coastline since the area was developed, particularly at Collaroy-Narrabeen Beach, Dee Why Beach, South Curl Curl Beach and Freshwater Beach. With current projections of climate change related sea level rise, this situation is expected to deteriorate over time. Since the late 1980s, particular focus has been given to the coastline along the Collaroy/Narrabeen beachfront, as this is one of the most vulnerable urban areas in Australia to coastal erosion. We have worked with the state government and local community to develop the Collaroy-Narrabeen Coastline Management Plan (1997) which guides our coastal erosion approach.

We continue to work with the government in preserving and protecting the beach as a national asset for public recreation and amenity, and ensuring that building and development along Collaroy-Narrabeen Beach consider the current and future hazards of wave impact and coastal erosion. This includes a beach nourishment program to maintain the general amenity and safety of the beach.

The Coastal Erosion Emergency Action Subplan for beaches in Warringah (2012) identifies risks associated with coastal erosion and the actions we intend to take to prepare for, respond to and recover from a coastal erosion emergency as well as requirements relating to landowner emergency coastal protection works. It will form an important part of a Coastal Zone Management Plan which will be developed in 2012.

A range of collaborative coastal monitoring and research partners – such as the Sydney Coastal Councils Group and universities – continue to inform about better practices and regional cooperation.





Bush fires

The Warringah Pittwater Bush Fire Risk Management Plan 2010 (BFRMP) is a requirement under the Rural Fires Act 1997. This strategic document guides all bush fire management activities in Warringah.

The aim of the BFRMP is to minimise the risk of adverse impact of bush fires on life, property and the environment. The BFRMP identifies the different levels of bush fire risk across Warringah and Pittwater and sets out a five-year program of coordinated multi-agency strategies to reduce bush fire risk.

Some of these strategies include:

- Strategic hazard reduction burning
- Inspection and treatment of Asset Protection Zones on a prioritised basis
- Inspection and maintenance of fire trails
- Community education in collaboration with the NSW Rural Fire Service and NSW Fire and Rescue

The Warringah Bush Fire Prone Land Map 2010 has been certified by the Commissioner of the NSW Rural Fire Service and informs Council's overall management approach of bush fire-prone lands.

Flooding

The state government has developed the NSW Flood Policy which helps us manage flood affected land, provides financial assistance to help us undertake investigations and implement suitable management options. Our 10 year Flood Program (2008 - 2018) gives direction to our floodplain risk management plans for the LGA. Council is undertaking Flood Studies for Narrabeen Lagoon and Manly Lagoon catchment (2011). These Flood Studies will identify the existing and future flood behaviour and will establish the basis for subsequent floodplain management activities to improve flood management and emergency response.

In 2011 approximately 2,000 dwellings in Warringah were identified as being at risk from flooding. This figure is likely to rise over the term of this Strategy, given the impacts of climate change, and will be closely monitored.

Geotechnical

Specific geotechnical assessments on selected cliffs in Warringah identify and assess the risk to life and property of potential landslips. The assessments are used as the basis for management of landslip risks and guide the monitoring of these areas into the future.

Strategic Directions – Natural Hazards

The aspiration that directly relates to natural hazards is:

- Protect the natural and cultural values of Council-managed lands while ensuring that visitor access and use is sustainable

The outcomes we seek, and the changes we will initiate are:



Utilising best available science

- Ensure evidence-based decision-making and priority settings are continually monitored and information and data verified in relation to hazards
- Prepare and implement hazard management plans as required
- Utilise our Enterprise Risk Management Framework to ensure our asset management planning takes into account future risks of these assets
- Manage lagoon entrances and water levels in Manly Dam to minimise flood risk in the coastal lagoons
- Consider constraints from identified hazards as part of our strategic land use planning



Clarifying responsibilities and accountabilities for hazard management

- Confirm and implement sound governance structures and practices for hazard management within Council, and externally in our relations with state and federal agencies
- Clarify responsibilities and accountabilities across governing agencies for preparing and communicating emergency management plans



Ongoing capacity building

- Ensure staff receive appropriate and up-to-date training in hazard management, including on-ground works



Community awareness of own responsibilities and protection options

- Encourage owners of private properties in areas subject to hazards to implement appropriate measures and behaviours which reduce their vulnerability to hazards
- Undertake sufficient community engagement to ensure residents remain well-informed and we maintain clear communication lines with these residents





Bushland and Biodiversity



Biodiversity in Warringah incorporates land and water-based plants, animals and micro-organisms. Most biodiversity is contained in the region's bushland reserves and substantial waterways. However, significant areas of biodiversity also occur on private land in urban and rural residential areas. The local national parks, although extensive, do not conserve the full range of local biodiversity. Local indigenous biodiversity in Warringah includes 140 recorded endangered and vulnerable threatened species and ecological communities. This includes 85 plant and animal species, 74 species listed as migratory and 7 Endangered Ecological Communities. Of the animals classified as threatened, 26 have dual listing - having both permanent and migratory status.

Bushland is fundamental to Warringah's "Bush and Beach" cultural identity. It is invaluable to the community as a part of our natural heritage and as a scenic, recreational, educational and scientific resource. Aside from the natural and social values associated with bushland, it also provides ecosystem services of significant economic value, such as flood control, erosion control, water-quality control, insect control, reduction of light and noise pollution, carbon absorption and climate stabilisation. Bushland provides the landscape context for many of Warringah's spectacular natural features, such as sandstone escarpments and places of cultural significance.

Key Challenges

- Loss of core areas of vegetation through development and illegal land clearing
- Fragmentation of bushland and loss of wildlife corridors and habitat areas on both public and private land
- Pest plants, animals and fungi diminishing biodiversity
- Decline in diversity and abundance of native species (threatened and non-threatened)
- Climate change effects on biodiversity
- Impacts of unsustainable and unauthorised informal recreation activities in environmentally sensitive areas
- Impact of development pressures on biodiversity and appropriate strategic land-use planning to address this pressure
- Balancing management of bush fire hazard risk, taking into account both natural values and risk factors to people and property
- Inappropriate fire regimes
- Water run-off issues
- Inherent difficulties in measuring and monitoring biodiversity



Threats to biodiversity in Warringah

The condition of the region's biodiversity is affected by a number of natural and human induced factors, such as land and creek bank clearing, property development, encroachment, bush fire, invasion by pest animals and weeds, fragmentation and water pollution. Climate change is likely to exacerbate the severity and frequency of factors that adversely affect biodiversity such as storms, heat-waves, drought and/or lack of water and/or flooding.

Approximately 20% of Warringah's bushland occurs outside national parks and public reserves and is located in what are primarily non-urban lands. Although bushland ecosystems are generally resilient, a combination of adverse impacts over time will result in the local extinction of plant and animal species and deterioration of ecosystem functions.

Conserving biodiversity in Warringah

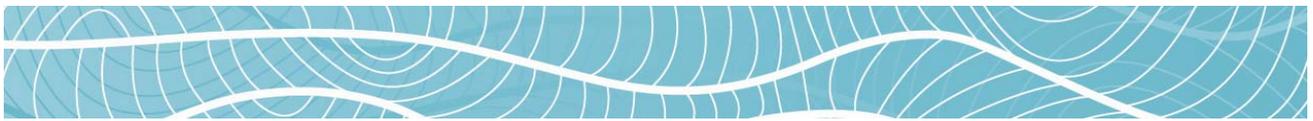
The Warringah Bushland Policy (2008) seeks to secure and promote long-term conservation of biodiversity and associated environmental values on public and private lands in Warringah. It also seeks to ensure bushland conservation and management issues are appropriately addressed and integrated with all activities, including strategic land-use planning and decision-making. The policy provides a clear and transparent approach to safe bushland management practices. It is supported by the Warringah Natural Area Survey, Local Habitat Strategy and site specific plans of management for bushland reserves in Warringah. Bushland management in these reserves involves fire management, threatened species conservation, bush regeneration, and weed and feral animal control.

A cornerstone of biodiversity conservation in Warringah is the support of the local community through participation in Council-supported bush regeneration work and wildlife surveys, and using biodiversity-friendly garden practices, such as the retention or planting of local plant species, controlling weeds and the proper disposal of garden clippings.

Strategic Directions – Bushland and Biodiversity

The aspirations that directly relates to Bushland and Biodiversity are:

- Maintain and enhance locally indigenous biodiversity in Warringah
- Maintain and enhance waterway function in Warringah
- Minimise the risk to life, property and the environment from natural hazards through partnerships with other levels of government and the community
- Protect the natural and cultural values of Council-managed lands while ensuring that visitor access and use is sustainable



The outcomes we seek, and the changes we will initiate are:



Integration of planning

- Ensure the integration of the Warringah Biodiversity Conservation Study with on-going decision-making and priority setting in relation to management of Council-managed bushland
- Identify the ecological condition of land that could be subject to urban expansion over the next decade
- Apply market-based conservation instruments, such as off-setting, bio-banking and land swaps where scientifically feasible, and in cooperation with major landholders where appropriate
- Work to ensure that all local biological communities are adequately protected whether they are within a reserve, on public or private land
- Undertake strategic-land use planning and investigate the use of planning approaches, including the biocertification of our LEP, as appropriate



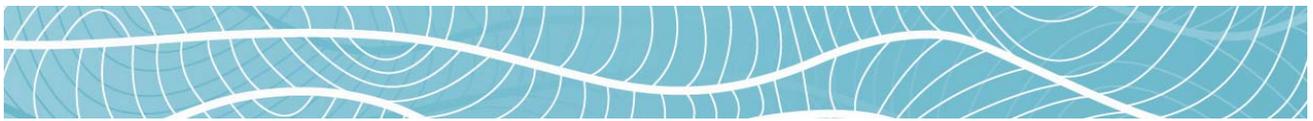
Consolidated risk management

- Protect, enhance and maintain wildlife corridors on lands managed by Council
- Establish a rating system for bushland and aquatic areas on public and private land according to the threats affecting these areas
- Enhance our adaptive capacity to manage emerging threats (such as new pest species)
- Prioritise programs to manage pests such as invasive plants and animals and monitor and evaluate their effectiveness
- Understand the ecological fire regimes applying to bushland and ensure that bush fire management is consistent with these regimes
- Continue to provide targeted education and training to assist landowners to manage biodiversity on private land
- Work closely with landowners to ensure that impacts on biodiversity on private land are identified and mitigated



Community engagement in biodiversity management

- Facilitate community engagement in bushland and aquatic area management
- Ensure community programs are consistent with measurable biodiversity conservation and community engagement objectives
- Ensure volunteer programs have measurable outcomes that are aligned with environmental objectives
- Understand the motivations and needs of volunteers and use this understanding to strengthen volunteer programs



- Expand volunteer programs beyond bushland themes to other areas of environmental management
- Access grants and other external financial assistance to support volunteer and community programs



Consolidated biodiversity information

- Access and integrating biodiversity data from different information resources held within different levels of government
- Implement a seamless transition of data from all relevant data collection activities to our geographic information system (GIS), including a capacity to interrogate and analyse the data at multiple levels
- Ensure bushland and biodiversity is incorporated into all education for sustainability initiatives





Catchments, Creeks and Lagoons

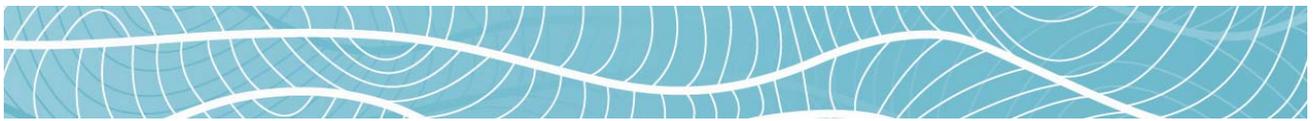


Warringah has seven major catchments with an extensive network of creeks and waterways draining to four coastal lagoons, nine coastal beaches, Middle Harbour and the Hawkesbury River.

Waterways have a fundamental role in the Warringah environment. Creeks, estuaries and lagoons support a variety of aquatic life, provide habitat and breeding grounds for many aquatic plants and animals and are an essential part of larger ecosystems.

Many waterways in Warringah have been piped as part of the stormwater network, cleared of vegetation, reclaimed with fill and developed upon. While this has increased the amount of land in Warringah open to development and arguably improved health and safety for residents, it has also had negative impacts on our waterways, including exacerbated flooding in certain areas, reduced bank stability, reduced water quality, reduced biodiversity, reduced natural floodplains and reduced vegetation corridors.

The entrances of the coastal lagoons naturally open and close depending on rainfall and ocean conditions. However, we manage the risk of flooding in urban areas by periodically artificially opening the entrances to the lagoons. Lagoons are home to a wide variety of plants and animals which are especially adapted to cope with a mix of freshwater and saltwater conditions. Too much freshwater can damage the system; too much ocean water can damage the system. We try to maintain this delicate balance.



Key Challenges

Some of the key challenges to maintaining and enhancing waterway function in Warringah include:

- Insufficient information on which to make evidence-based management decisions. In particular, there is a lack of baseline knowledge on aquatic and riparian biodiversity and ecology, particularly related to impacts from recreational use
- Creek bank erosion and its risks to property (including Council assets) and natural areas
- Contaminated leachate affecting waterways
- Flooding and lagoon entrance management
- Impact of stormwater quantity and quality on receiving water bodies
- Impacts of climate change on catchment hydrological systems
- Impact of aquatic and riparian pest species (flora and fauna) on existing habitat
- Recreational water quality
- Sedimentation and water pollution of coastal lagoons
- Protecting creeks in good condition from declining

Waterway Management

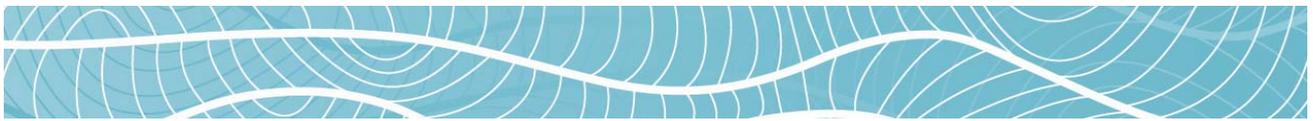
The Warringah Creek Management Study (2004) provides a decision-making basis for protection and reparation of Warringah's creeks, while our Protection of Waterways and Riparian Land Policy (2010) guides the management, development and protection of waterways and associated riparian land in Warringah.

The policy commits us to manage, protect and repair waterways and riparian land in a manner that:

- allows them to function as natural systems where possible
- considers risk from instability, erosion and flooding
- is consistent with our planning controls and guidelines as well as state and federal legislation and guidelines

To assist us in measuring progress, we implemented a water-quality monitoring program that covers freshwater, estuarine and event-based (stormwater) monitoring and assessment.

In terms of on-ground repair works to our catchments, our largest program to date is the Narrabeen Lagoon restoration works. Pittwater and Warringah Councils were awarded a \$1.96 million grant by the Environmental Trust to be implemented over a three-year period from 2008 to 2011 covering catchment-wide projects, such as sustainable living education programs, creek bank remediation works, bush regeneration and revised planning controls. The grant also supported existing restoration programs within Narrabeen Lagoon by focusing on Middle, Mullet and Nareen Creeks, which urgently required resources and remediation works.



Water Cycle Management

The way we manage urban water, particularly urban stormwater, influences almost every aspect of our urban environment and quality of life. Water is essential for maintaining and enhancing the environmental values of surrounding landscapes and in the amenity and cultural connection of a place.

The pursuit of sustainable urban environments involves development that does not deplete natural resources or degrade the health and amenity of land and water environments. Rather, the aim is to replicate the natural water cycle by incorporating design that is resilient to the impacts of climate change, particularly ensuring secure water supplies and the protection of water environments.

The key, long-term challenges relate primarily to the anticipated population growth and the economic, social and environmental issues that accompany that growth. We must look to transform our traditional water management approach to ensure a safe, reliable and diverse water supply future, improve water quality and protect the unique waterways and lifestyle of the area. It is therefore essential that we embrace a 'water sensitive city' methodology which maximises the integration of urban planning with the management, protection and conservation of the urban water cycle.

Strategic Directions – Catchments, Creeks and Lagoons

The aspirations that directly relates to catchments, creeks and lagoons are:

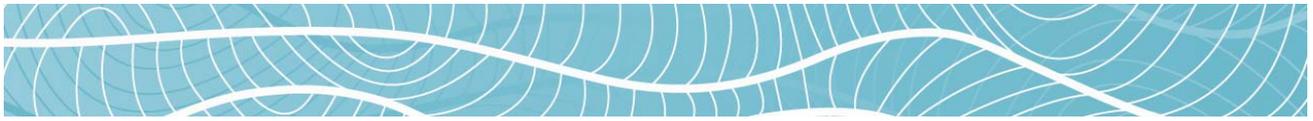
- Maintain and enhance locally indigenous biodiversity in Warringah
- Maintain and enhance waterway function in Warringah
- Protect the natural and cultural values of Council-managed lands while ensuring that visitor access and use is sustainable

The outcomes we seek, and the changes we will initiate are:



A community that values waterways

- Work with the community to promote and support changes at a household and individual level, such as consumption patterns, so that behaviours will be consistent with action to enhance the condition of waterways and their catchments
- Identify opportunities for more effective land tenure and formalised conservation agreements



Holistic understanding of local waterways

- Enhance understanding of aquatic biodiversity, birds, pest species and recreational usage of waterways and integrate ecological monitoring with other condition monitoring programs, such as water quality
- Evaluate climate risks, adaptive capacity and mitigation opportunities for waterways
- Develop effective partnerships with education and research bodies to improve understanding of aquatic ecosystems and water cycle management



Long-term evidence-based approach

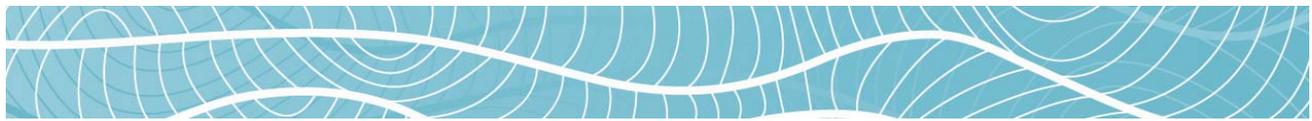
- Base our priorities on an assessment of ecosystem condition and risks to life, property (public and private) and ecosystems
- Allocate resources to waterways and catchment management based on these priorities
- Undertake strategic environmental assessments of potential urban development areas



Integrated water-cycle management

- Integrate water-cycle management guidelines into development controls
- Seek to reduce the impacts from contaminated lands, stormwater (quantity and quality) and sewage overflows in the upper parts of our catchments
- Identify opportunities for alternative water-supply sources





Sustainable Recreational Access to Natural Areas



We provide a broad range of assets and facilities which enable participation in a wide variety of activities throughout Warringah. We manage and maintain community buildings, swimming pools, sportsfields, parks, youth facilities, playgrounds, natural areas, tracks, cycleways and pathways, lagoons, beaches and waterways.

It is expected that there will be an increasing demand for access to

Warringah's natural areas both from within Warringah and from Sydney in general due to population growth and increasing popularity of outdoor activities. Such pressures have the potential to have a greater impact on natural areas and will require careful management of recreational use of environmentally sensitive areas.

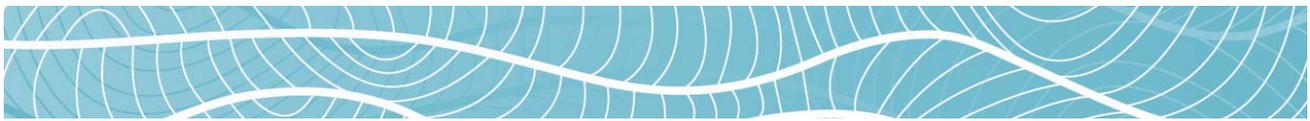
The use of natural areas is generally by definition 'unstructured' or 'unorganised'. In some cases these activities are high impact and do not necessarily have a recognised or formal 'voice', making communicating with users and controlling impacts difficult.

There is also a perceived conflict between public use and exclusive use, especially at the beaches and waterways. Exclusive use includes activities such as events (surf carnivals, beach festivals etc), those activities that require exclusive use for safety reasons (water skiing, nippers etc) and commercial activities (surf schools, tourism tours, personal trainers).

Climate change has also been raised as an issue which we should take into consideration in the ongoing development and management of recreation assets, in particular the potential impact on beaches and outdoor facilities.

Key Challenges

- Increasing development pressure and the associated increase in recreation usage of adjoining natural areas
- Managing environmental damage resulting from unsustainable and/or unauthorised recreation access in bushland reserves
- Water-quality impacts from recreation access
- Inadequate guidelines to manage commercial recreation access to natural areas
- Need to integrate design guidelines for recreation infrastructure
- Need to enhance the provision of accessible and contemporary information on sustainable access to Warringah's natural areas
- Eco-tourism is an opportunity to enhance how people value Warringah's natural environment
- Ensuring compliance and regulation
- Developing an equitable funding model for access to, and use of, natural resources for recreational purposes



Planning for Recreation

Our Recreational Strategy (2009) is the primary resource document for recreation management in Warringah. It provides a long-term strategic direction for the future provision and management of recreational assets, programs and services, and is supported by tactical plans and studies such as the Warringah Regional Multiple-Use Trail Strategy (2007) and the Horse riding trails and facilities in Terrey Hills & Duffys Forest study (2009).

According to the Recreational Strategy, the most used natural regional facilities were Narrabeen Lagoon (57%) and Manly Warringah Memorial Park (39%). There is also high usage of other outdoor natural areas for swimming, walking and cycling. These natural facilities are subject to recreation management protocols which provide a spectrum of recreational settings that do not compromise conservation values.

Our Recreational Strategy recommends that we implement specific management models for major natural recreational facilities, including Manly Dam, Narrabeen Lagoon and the beaches. The purpose of this model is to ensure that a diverse range of outdoor recreational opportunities are provided and maintained, consistent with the carrying capacity of natural areas and the participation and demand for facilities. It also recommends that the model be implemented with other stakeholders, such as neighbouring councils, and that a long-term strategic plan is developed for natural area recreation.

Trails in Natural Areas

There are two key initiatives that guide our approach to managing trails in Warringah: the Warringah Regional Multi-use Trail Strategy (2007) and the Narrabeen Lagoon Multi-use Trail Project:

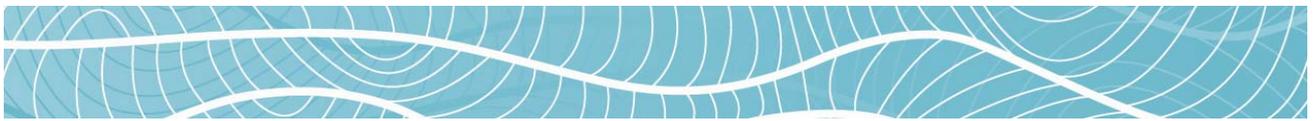
- Warringah Regional Multiple-Use Trails Strategy: This project is about improving the recreation opportunities for the community and is a response to the increasing number of management issues associated with existing trails and the growing demand for use of the trails (for example horse riding trails, mountain biking trails and walking trails).
- Narrabeen Lagoon Multi-use Trail Project: This project involves the design and construction of 2.5km of trail and pedestrian bridge infrastructure (of which 850m is now complete) between Deep Creek and South Creek. This project will complete the final links of the existing trail network along the foreshores of the northern beaches largest coastal lagoon.



Strategic Directions – Sustainable Recreational Access to Natural Areas

The aspiration that directly relates to sustainable recreational access to natural areas is:

- Protect the natural and cultural values of Council-managed lands while ensuring that visitor access and use is sustainable



The outcomes we seek and the changes we will initiate are:



Balanced approach where environmental values and recreation demand are both considered

- Undertake constraints assessments to identify natural areas suitable for recreation access (see also the Warringah Recreation Strategy and the Warringah Biodiversity Conservation and Restoration Plan).
- Identify good practice regarding management of recreation in natural areas from other regions to help inform Warringah's approach.
- Adopt a decision-making framework to enable appropriate environmental assessments of new recreational access to natural areas under Council ownership or control.
- Ensure recreation is considered in the preparation of future Plans of Management for all natural areas under Council ownership or control.
- Up-skill staff in the assessment and sustainable management of recreational access (both community/public and commercial) on natural areas under Council ownership or control.



Recreation facilities that are integrated and connected

- Develop and manage walking tracks, pedestrian pathways, linkages, cycleways and multi-use trails in accordance with our Bike Plan, Multi-use Trail Strategy and Recreation Strategy.
- Encourage a regional approach to the planning of recreation assets in natural areas so that there is consistency across jurisdictions.
- Determine our role of providing off-road cycling facilities in accordance with the Recreation Strategy and relevant Plans of Management.
- Implement environmental monitoring programs in areas subject to recreational access (both commercial and non-commercial).
- Apply asset-management planning to the maintenance of trails.



Networks between user groups

- Identify recreation groups that access natural areas and understand and evaluate their needs.
- Work with user groups so they understand the potential impacts of recreational activities on natural areas and the behaviours needed to avoid these impacts.
- Identify any conflicting uses or requirements and negotiate outcomes that protect the natural environment.

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Legislation

Environmental Planning and Assessment Act 1979 (EP&A Act)

Threatened Species Conservation Act 1995 (TSC Act)

Commonwealth Environment and Biodiversity Conservation Act 1999 (EPBC Act)

Local Government Act 1993 (LG Act)

Noxious Weeds Act 1993 (NW Act)

Fisheries Management Act 1994 (FM Act)

Water Management Act 2000 (WM Act)

National Parks and Wildlife Act 1974 (NPW Act)

Heritage Act 1977 (H Act)

Companion Animals Act 1998

Work Health and Safety Act 2011

State Environmental Planning Policy 19 – Bushland in Urban Areas (1986)

State Environmental Planning Policy – Infrastructure (2007)

Warringah Local Environmental Plan 2011 (WLEP 2011)

Warringah Local Environmental Plan 2000 (WLEP 2000)

Warringah Development Control Plan 2011 (DCP 2011)

Appendix 1: Our Strategic Directions per Focus Area

Focus Area	Strategic Directions
Climate Change	<ul style="list-style-type: none"> • 40% reduction in Council's corporate carbon emissions by 2020, using a 2000 baseline (Commitment) • We support a 40% minimum reduction of carbon emissions in Warringah by 2020, using a 2000 baseline (Commitment)
Sustainable Living and Working	<ul style="list-style-type: none"> • 40% reduction in Council's corporate carbon emissions by 2020, using a 2000 baseline (Commitment) • We support a 40% minimum reduction of carbon emissions in Warringah by 2020, using a 2000 baseline (Commitment) • 50% increase in neighbourhood food production and distribution by 2020, using a 2010 baseline (Commitment) • 80% less food waste in the general waste stream by 2020, using a 2000 baseline (Commitment)
Natural Hazards	<ul style="list-style-type: none"> • Minimise the risk to life, property and the environment from natural hazards through partnerships with other levels of government and the community (Aspiration)
Bushland and Biodiversity	<ul style="list-style-type: none"> • Maintain and enhance locally indigenous biodiversity in Warringah (Aspiration) • Minimise the risk to life, property and the environment from natural hazards through partnerships with other levels of government and the community (Aspiration) • Protect the natural and cultural values of Council-managed lands while ensuring that visitor access and use is sustainable (Aspiration) • Maintain and enhance waterway function in Warringah (Aspiration)
Catchments, Creeks and Lagoons	<ul style="list-style-type: none"> • Maintain and enhance waterway function in Warringah (Aspiration) • Maintain and enhance locally indigenous biodiversity in Warringah (Aspiration) • Minimise the risk to life, property and the environment from natural hazards through partnerships with other levels of government and the community (Aspiration) • Protect the natural and cultural values of Council-managed lands while ensuring that visitor access and use is sustainable (Aspiration)
Sustainable recreational access to natural areas	<ul style="list-style-type: none"> • Protect the natural and cultural values of Council-managed lands while ensuring that visitor access and use is sustainable (Aspiration)

Appendix 2: Our Strategic Directions and Measurement of Progress

Commitment/Aspiration	Measurement	Frequency	Source of Data
40% reduction in Council's corporate carbon emissions by 2020, using a 2000 baseline (Commitment)	Level of emissions from our facilities	Annual	Corporate emissions reports
We support a 40% minimum reduction of carbon emissions in Warringah by 2020, using a 2000 baseline (Commitment)	Level of emissions from residents and businesses in Warringah	Every four years	Energy utilities
50% increase in neighbourhood food production and distribution by 2020, using a 2010 baseline (Commitment)	Area dedicated to community gardens	Every four years	SEA ⁸
80% less food waste in the general waste stream by 2020, using a 2000 baseline (Commitment)	Amount of food waste recycled	Annual	Kerbside audits
Maintain and enhance locally indigenous biodiversity in Warringah (Aspiration)	Condition assessment compared to the current baseline condition	In accordance with MERI ⁹	Field assessments and reports
Maintain and enhance waterway function in Warringah (Aspiration)	Condition assessment compared to the current baseline condition	In accordance with MERI	Field assessments and reports
Minimise the risk to life, property and the environment from natural hazards through partnerships with other levels of government and the community (Aspiration)	Risk assessments conducted	In accordance with MERI	Field assessments and reports
Protect the natural and cultural values of Council-managed lands while ensuring that visitor access and use is sustainable (Aspiration)	Condition assessment compared to the current baseline condition	In accordance with MERI	Field assessments and reports

⁸ SEA: Council's geographical information system

⁹ MERI: Monitoring, Evaluating, Reporting and Improvement framework

Appendix 3: Template for annual action plans

This template and examples of existing projects is provided to indicate how we will use the Strategy as an overall planning framework which will guide and consolidate our environmental projects and initiatives across Council. We will update the table annually and make it available to the community once the budget has been approved (i.e. at the beginning of each financial year).

Environmental Sustainability Strategy - Project Implementation Plan

Strategy Theme	EXAMPLES ONLY
Bushland and biodiversity	EXAMPLE: Targeted Weed Control
Climate change	EXAMPLE: Energy and Water Savings Action Plan
Natural Hazards	EXAMPLE: Manly Lagoon Flood Study
Sustainable Living and Working	EXAMPLE: Waste Education
Catchments, Creeks and Waterways	EXAMPLE: Ecological Assessment of Warringah Estuaries
Sustainable recreation	EXAMPLE: Narrabeen Lagoon Multi-Use Trail, Stage 2

Appendix 4: Community greenhouse gas emissions in Warringah 2007/08

Based on the modelled activity of the Warringah LGA, community emissions during 2007/08 were estimated to be 1,502,768 TCO₂-e. The chart below provides a breakdown of the various sources of emission. Electricity use and transport are by far the two largest sources of emissions in the Warringah LGA.

