

City of Nedlands

Agenda

Sustainable Nedlands Committee Meeting

16 July 2012

ATTENTION

This Agenda has yet to be dealt with by the Committee.

The Administration Recommendations, shown at the beginning of each item, have yet to be considered by the Committee and are not to be interpreted as being the position of either the Committee or Council.

The Minutes of the meeting held to discuss this Agenda should be read to ascertain the decision of the Committee.

Before acting on any recommendation of the Committee a check must also be made in the Ordinary Council Minutes following the Committee Meeting to ensure that Council did not make a decision at variance to the Committee Recommendation.

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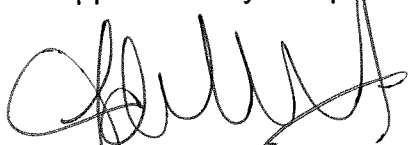
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City of Nedlands

Notice of a meeting of the Sustainable Nedlands Committee to be held in the Council Chambers, 71 Stirling Highway, Nedlands on Monday, 16 July 2012 at 6.00 pm.

Dear Committee Member

The next meeting of the Sustainable Nedlands Committee will be held on Monday, 16 July 2012 in the Council Chambers at 71 Stirling Highway, Nedlands at 6.00 pm. It is expected that the meeting will conclude at approximately 7.30pm.



Andrew Melville
Acting Director Technical Services
12 July 2012

Sustainable Nedlands Committee Agenda

Declaration of Opening

The Presiding Member will declare the meeting open at 6.00 pm and will draw attention to the disclaimer below.

Present and Apologies and Leave of Absence (Previously Approved)

Leave of Absence None
(Previously Approved)

Apologies None as at distribution of this agenda.

Disclaimer

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1. Public Question Time

A member of the public wishing to ask a question should register that interest by notification in writing to the CEO in advance, setting out the text or substance of the question. Questions tabled at the meeting may be unable to be answered due to the requirement for technical research and will therefore be answered direct afterwards.

Questions must relate to a matter contained within the agenda of this meeting.

2. Public Address Session (only for items listed on the agenda)

Addresses by members of the public who have completed Public Address Session Forms will be invited to be made at this point.

3. Disclosures of Financial Interest

The Presiding Member to remind Councillors and Staff of the requirements of Section 5.65 of the Local Government Act to disclose any interest during the meeting when the matter is discussed.

A declaration under this section requires that the nature of the interest must be disclosed. Consequently a member who has made a declaration must not preside, participate in, or be present during any discussion or decision making procedure relating to the matter the subject of the declaration.

However, other members may allow participation of the declarant if the member further discloses the extent of the interest. Any such declarant who wishes to participate in the meeting on the matter, shall leave the meeting, after making their declaration and request to participate, while

other members consider and decide upon whether the interest is trivial or insignificant or is common to a significant number of electors or ratepayers.

4. Disclosures of Interests Affecting Impartiality

The Presiding Member to remind Councillors/Staff of the requirements of Council's Code of Conduct in accordance with Section 5.103 of the Local Government Act.

Committee members and staff are required, in addition to declaring any financial interests to declare any interest that may affect their impartiality in considering a matter. This declaration does not restrict any right to participate in or be present during the decision-making procedure.

The following pro forma declaration is provided to assist in making the disclosure.

"With regard to the matter in item x..... I disclose that I have an association with the applicant (or person seeking a decision). As a consequence, there may be a perception that my impartiality on the matter may be affected. I declare that I will consider this matter on its merits and vote accordingly."

The member or employee is encouraged to disclose the nature of the association.

5. Declarations by Members That They Have Not Given Due Consideration to Papers

Members who have not read the business papers to make declarations at this point.

6. Confirmation of Minutes

6.1 Sustainable Nedlands Committee Meeting

The Minutes of the Sustainable Nedlands Committee held on 7 May 2012 are to be confirmed.

7. Items for Discussion

NOTE: Regulation 11(da) of the Local Government (Administration) Regulations 1996 requires written reasons for each decision made at the meeting that is significantly different from the relevant written recommendation of a committee or an employee as defined in section 5.70 (but not a decision to only note the matter or to return the recommendation for further consideration).

7.1 Subcommittee Reports

7.1.1 Energy and Waste

No Report has been received.

7.1.2 Water

No Report has been received.

7.1.3 Transport

Presentation by Tony Blackwell, Principal of Blackwell and Associates on Transport and the Built Environment.

7.1.4 Built Environment

The following items were discussed at the Sub-Committee meeting held on Monday, 18 June 2012.

Attendees: Nigel Shaw [convenor], Gordon Davies and Sue Hartley

Apologies: Mayor Hipkins and Rod Griffiths.

Agenda: This was left open to enable discussion on matters pertinent to the built environment and/or traffic, as it relates to the City, the idea being to establish a workable agenda as the sub-committee and full committee proceeds.

Discussion points:

1. Are the SNC and indeed the City 'committed' to potential outcomes of and feasible actions suggested as we proceed?
2. Gordon raised the ongoing issue of control of street lighting times, and the impact on energy costs.
3. Potential and possibility for 'mini TP Schemes' for the 4 City Wards. An interesting possibility, as the 4 Wards have different characteristics of among other things geography, lot sizes, residential coding, population numbers, infrastructure services, the presence/use/potential of ROW's, etc.
4. City and Council to be advocates for 'sustainable design and practices'.
5. Help people, especially senior citizens, to understand how to save running costs; the City can be a conduit for

information that is available from a wide range of sources, e.g REIWA, WALGA [?], professional organisations, and of course written material and the knowledge base within the community.

6. The retrofitting of housing to respond to energy auditing is going to become increasingly mandatory, and advice is needed.
7. Planning, design and building practices should encourage recycling of materials for example, and perhaps find ways of retaining and refitting more dwellings, rather than knocking them down and starting again. More materials are going to waste dumps, as storage space (i.e salvage yards) is becoming scarce and therefore less economical.
8. Can the City have any useful dialogue with local schools with respect to students being driven to and from; and this obviously means schools outside the City as well as those within our boundaries. There is something for example, about the 'amount of stuff' that students need to take to school that makes walking, cycling or taking public transport less desirable options?
9. Tap into school curricula that talk about sustainable practices, and consolidate the City's role in 'spreading the word'. It is possible that the older, busier sectors of our community are those who don't relate too readily to so called 'sustainable practices'.
10. How are we going with the mapping out of a 'logical' cycle network?
11. Do we have the opportunity to create any precincts or streets that can rearrange priorities of use from vehicles to shared use, as happens everywhere else (e.g article in "West" on London Street, and of course all the examples from Denmark, and throughout Europe).

Committees could build up some 'key words' from their discussion points to help create an agenda.

7.1.5 Natural Environment

No Report has been received.

7.2 Committee Meeting Venue

The Committee to discuss committee meeting venue options.

7.3 Wikispace Workshop

Councillor Kerry Walker will be demonstrating how to upload and use the wikispace.

8. ICLEI Water Campaign Milestone Update

Acting Director Technical Services will provide an update to the Committee on the City's progress regarding the water campaign.

9. Draft City of Nedlands Climate Change Local Adaptation Plan 2012-2017

Please find attached the above report in accordance with the request of Committee of the July 10 2012 meeting where it was recommended that:

Council endorses the City of Nedlands' Climate Change Local Adaptation Action Plan: 2012-2017 with referral to the Sustainable Nedlands Committee before the next Council Meeting for comment.

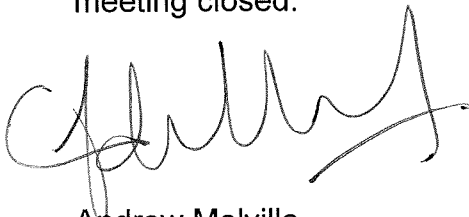
This item will be presented to Council for adoption on Tuesday 24 July. Prior to proceeding to Council, any comments on the plan, its philosophy or language of the document, are encouraged.

10. Date of Next Meeting

The next meeting of this Committee is scheduled for Monday, 17 September 2012 commencing at 6.00 pm.

Declaration of Closure

There being no further business, the Presiding Member will declare the meeting closed.



Andrew Melville
Acting Director Technical Services

Climate Change Local Adaptation Action Plan: 2012-2017

TRIM Ref. M11/23746

DRAFT

Summary

This Local Adaptation Plan accompanies the WESROC Regional Climate Change Adaptation Action Plan 2010-2011. The Regional Climate Change Adaptation Plan was developed by Coastal Zone Management in 2010, and outlines those actions that are to be completed on a regional basis, and those actions to be completed by individual councils. In addition to these plans, a regional Climate Change Project Group has been formed with representatives from each member council to discuss Climate Change impacts.

This Local Adaptation Plan identifies adaptive actions for the City that are to occur immediately; in the next 2 years; in the next 5 years; and in the next 20 years. It spans all divisions of the City, and will require cooperation between these divisions.

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Introduction

The City of Nedlands is committed to recognising, adapting to and reducing its contribution to the unavoidable impacts of climate change. The response to climate change is a two-part process: adaptation and mitigation. The City has begun the process of mitigation by developing its Carbon Inventory and Management Report, and starting to explore options for its Resource Efficiency strategy. Adapting to the affects of climate change is the next step for the City. This Local Adaptation Plan complements the WESROC Regional Climate Change Adaptation Action Plan 2010-2011, and ensures that actions that can be done at a regional level are not unnecessarily replicated at the City level, in the interests of efficiency and resource conservation. This Plan identifies adaptive actions for the City that are to occur immediately; in the next 2 years; in the next 5 years; and in the next 20 years.

Background

The Western Suburbs Regional Organisation of Councils (WESROC) employed Coastal Zone Management in 2010 to prepare a Climate Change Risk Assessment and Adaptation Plan for the region. This report identified the key threats, risks and responses for the WESROC region, and identified adaptive action to be tackled at the regional and local level.

The key objectives of the report were to identify future impacts of climate change within the WESROC region and the associated risks to participating councils; develop a regional plan for action; and review mitigation activities. From this, a Regional Climate Change Adaptation Plan has been developed, and a regional Climate Change Project Group has been formed with representatives from each member council.

Impacts of Climate Change

The Intergovernmental Panel on Climate Change (IPCC) is regarded as the most reliable source of Climate Change data within the scientific community. The IPCC report (2007) developed climate change scenarios for the year 2070, and the anticipated changes for Perth are below:

- An increase in annual average temperature of 2.7°C, and twice as many days over 35°C per year
- 20% reduction in annual rainfall
- An increase of mean sea level of 0.33m (and 0.9m over a 100 year timeframe)
- Increase in the intensity of extreme weather events such as storms.

Coastal Zone Management's report identified the following key threats for the WESROC region:

- Threat to infrastructure adjacent to the coast and river from erosion and inundation
- Impact on management and maintenance of infrastructure, drainage and wastewater networks
- Increased range of vector-borne diseases and the associated emergency response
- Impact of natural resources such as bush land and landscaped gardens, and water and air quality.

Other likely effects for the City include increased exposure to extreme temperatures by council employees and the need to adapt to reducing resources such as water, coal and oil-based fuels.

A list of key service delivery areas (KSDA) was developed in the report to ensure that the impacts from climate change were aligned to key asset and service delivery areas across all member councils:

- General Options (G)
- Infrastructure and Property Services (IPS)
- Planning (PPD)
- Health and Community Services (H)
- Emergency Management (EM)
- Recreational Services (R)
- Natural Resource Management (NRM)

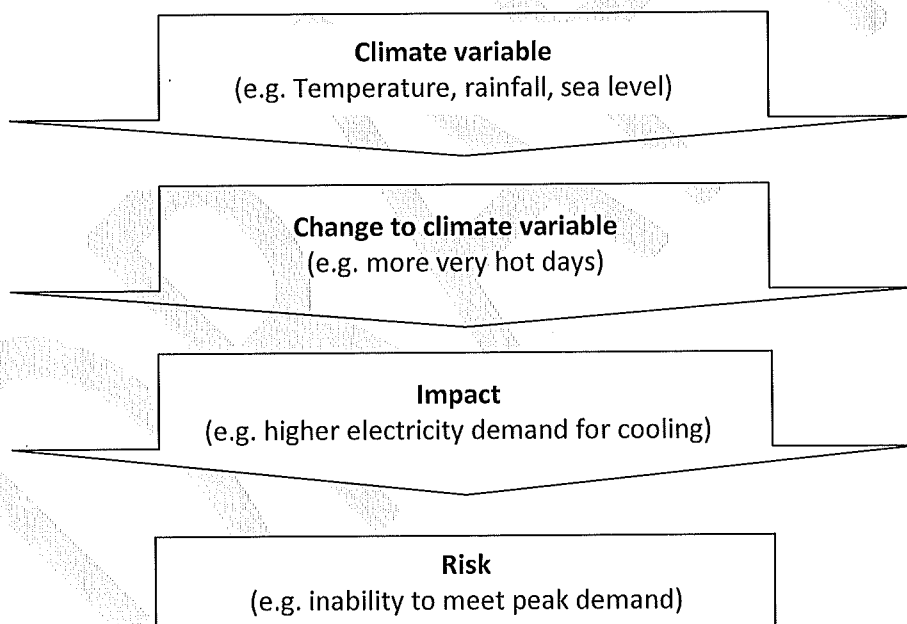
The "extreme" risks identified for the City of Nedlands are:

- Changes in groundwater levels leading to decline in water quality;
- Shifts in distributions of plant and animal species;
- Increases in ecological disturbances and reduced ecosystem resilience to stress;
- Health impacts due to exposure to extreme weather e.g. Heat waves, hail, flooding;
- Increase in geographical range and seasonality of vector-borne diseases and the possibility for an expansion of receptive zones;
- More intense rainfall resulting in inflow and infiltration into wastewater networks;
- Increased erosion and/or exceedance of seawalls, jetties and other coastal defences;
- Inundation and/or erosion of roads in coastal and estuarine areas;
- Increased frequency, or permanent inundation of, coastal infrastructure and utilities e.g. Water, sewerage, gas, telecommunications, electricity, transportation;
- Increased risk of population extinctions (flora and fauna);
- Increased coastal erosion and inundation;

- High temperatures increasing incidence of food and water-borne diseases;
- Reduction of water quality and quantity resulting in less watering/irrigation of open space, sports grounds, and subsequent closure of ovals;
- Exposure of reticulation and saltwater infiltration into groundwater sources;
- Deterioration and destruction, damage and disturbance to council-managed marinas and boat ramps;
- Increase in the spatial extent of nutrient rich sediments due to reduced river flows and increased tidal extend (due to sea level rise);
- Erosion or inundation leading to loss of coastal and estuarine recreational infrastructure.

Risk Assessment

Coastal Zone Management's report uses the following risk assessment framework to organise risks, and identify the links to climate change.



(Coastal Zone Management 2010 p.20)

Prioritising Adaptation Actions

Adaptation actions were prioritised using the following criteria:

1. Treating or managing the priority climate change risks; and
2. Having limited barriers (including financial barriers) to implementation

Adaptation Action Classification	Recommended Response
Important and Easy	Take Action Now
Important and Tricky	Begin to Remove Barriers
Not so Important but Easy	Take Action when Opportunity Presents
Too Hard for Now	Take Action to Remove Barriers and Enhance Opportunities when Opportunity Presents

Monitoring and Review

This Local Adaptation Plan will be monitored and reviewed annually to determine progress against the adaptation actions for the town.

A major review will be undertaken in 2013/14 to identify future action that may be required, and compare against the most up to date climate change information that will be available at that time.

City of Nedlands Climate Change Local Adaptation Plan

The City's Adaptation Plan begins on the following page.

Adaptation Option	Adaptation Actions	Timeframe				Responsibility	Task Completed
		Immediate (2012/2013)	Short (2012-2014)	Medium (2012-2017)	Long (20 years)		
G01 Ensure quality and validity of information sources for decision making	1. Review most recent climate change information at a regional and local scale as it becomes available	X				Sustainability Officer	
	2. Communicate state-of-knowledge regarding climate change and climate related risks across all local government departments	X				Sustainability Officer/MSN	
	3. Ensure that there is regular review of existing and potential technology that may increase information and aid decision-making. For example, alternate road surface material with resistance to high temperatures.	X				Manager Engineering Services	

		<p>4. Maintain open dialogue with relevant state/federal departments to ensure transferability/continuity of all pertinent information to be used in decision making process as it relates to climate change adaptation</p>		X		CEO		
G02	Disseminate information on implications of identified risks of climate change within the WESROC region to relevant authorities/agencies	<p>1. Present outcomes of the study to key stakeholders; i.e. WAPC/DPI, Utility providers and representatives from other Local Government Authorities</p> <p>2. Initiate Regular Meetings/conference with key agencies to foster the creation of expertise (to enable council to undertake some of the required technical works) and to build relationships with other agencies to</p>		X		CEO		
				X		CEO		

		share information. The aim is to build local knowledge and expertise							
G03	Communicate with/educate of rate payers and residents on climate change risks and adaptation activities	1. Review options to disseminate results of the current study to the community 2. Develop information dissemination plan for the delivery of current study information to the community	x	x			Sustainability Officer	Sustainability Officer	

	<p>3. Create Community Awareness program – envisioned as a 5 year plan. Information and awareness raising for the outcomes of the current research (Phase I); the importance of monitoring aiming for volunteer support (Phase II); the outcomes of the management review</p>	<p>X</p>	<p>X</p>	<p>Sustainability Officer</p>	
<p>G04</p>	<p>Communicate with key service providers to facilitate 'shared care' approach to the management of the impacts of climate change on key services within the WESROC region</p>	<p>1. For example, contact Watercorp requesting information on the implications for council if their facilities are damaged.</p>	<p>X</p>	<p>Director Technical Services</p>	

G05	Establish/strengthen relationships with community groups to facilitate monitoring activities, raise awareness and participate in adaptation strengthening activities	<p>1. For example, dialogue with Coastcare and Swan-Canning Estuary community groups. There needs to be recognition that there will be increased pressure on providing stabilised dunes and foreshores. In addition, ecological change must be closely monitored to support implementation of adaptive actions prior to the breaching of thresholds.</p>	X				Bushcare Officer	
G06	Strengthen the profile of climate change and capacity building within local government	<p>1. Disseminate climate change information throughout all local government areas within each member council</p> <p>2. Establish communication channels between scientists and local government staff</p>	X	X			WESROC Exec	WESROC Exec

	<p>3. Ensure all WESROC Local Governments adopt the WALGA declaration on climate change</p> <p>4. Decrease the 'silo' nature of climate change management within council through development of planning strategies that mainstream climate change adaptation across departments.</p> <p>5. Undertake targeted capacity building programs and review resourcing to address climate change</p>	<p>x</p>				<p>WESROC Exec</p>	
<p>G07</p> <p>Incorporate climate change scenarios into policy and decision making processes (Council wide)</p>	<p>1. Review management plans, guidelines and other decision making tools applied in all Local Government service areas, to ensure information about climate-related risk, vulnerability, and options for</p>			<p>x</p>		<p>All Departmental managers</p>	

	adaptation are incorporated into planning and decision-making						
	2. Identify gaps in current decision making frameworks and develop strategies to incorporate climate change			X		All Departmental managers	
	3. Undertake iterative review of the effectiveness of implementing updated frameworks in line with scheduled climate change risk assessments and adaptation planning			X		All Departmental managers	

G08	Communicate and lobby State Government to take leadership action on climate change	<p>1. Collaborate with WALGA to lobby the State Departments to ensure increased action in preparing for the potential impacts of climate change.</p> <p>2. Maintain open dialogue with relevant state departments, as required, to promote increased action on climate change</p>	X	WESROC exec and Councillors	
G09	Review insurance coverage of council assets and liability	<p>1. Broaden insurance cover to better protect council from sudden clean-up costs</p> <p>2. Review policies, procedures and current levels of insurance coverage</p> <p>3. Awareness campaigns aimed at risk, businesses, preparation and insurance</p>	X	Manager of Finance	
			X	Manager of Finance	
			X	Manager of Finance	

IPS01	Review the structural integrity of existing defence structures	<p>1. Consult with the DoT to gather feedback on the review of existing coastal defence structures (undertaken in 2009) - This information will inform additional adaptation planning along the coast to be undertaken in conjunction with state government</p> <p>2. Review existing defence works for valuable infrastructure (not currently being considered by DPI coastal protection review, i.e. within the Swan-Canning estuary)</p> <p>3. Develop programme of works to upgrade existing defence structures, as identified from review</p>	X	X		Manager Engineering Services	
			X	X		Manager Engineering Services	
					X	Manager Engineering Services	

IPS02	<p>Monitor changes in condition of infrastructure items (i.e. roads, council buildings, transport and lighting) so that any modifications/retro fitting occurs on time and prior to failure</p>	<p>1. Investigate opportunities for regional resource sharing arrangements across the WESROC region</p>	<p>X</p>			<p>WESROC Exec</p>	
	<p>2. Improve record keeping allowing historical condition tracking (i.e. access to monitoring records)</p>	<p>X</p>				<p>WESROC Exec</p>	
	<p>3. ID areas requiring immediate attention/Ongoing monitoring (align to integrated monitoring strategy)</p>	<p>X</p>				<p>WESROC Exec</p>	
	<p>4. Identify alternative options should the existing infrastructure be impacted upon in order to maintain services and connections</p>	<p>X</p>				<p>WESROC Exec</p>	

IPS03	Improve storm water capture and reuse	<p>5. Incorporate planned activities within an approved budget framework.</p> <p>1. Improve asset inventory to allow best practice design of storm water infiltrations. In some cases, current records of side entry pits and underground storm water pipe networks are not well recorded.</p> <p>2. Investigate drainage improvements at all known flash flood points of transport system within WESROC boundaries, and advocate similar actions outside WESROC boundaries</p> <p>3. Investigate management strategies and implement most effective strategies to manage storm water outfalls, i.e. nutrient stripping Gross Pollutant</p>	X	X	X		WESROC Exec	
						Director Technical Services		
				X		Manager Engineering Services		
				X		Manager Engineering Services		

		Traps, living stream and/or wetlands						
IPS04	Review and amend design specifications (retrofitting existing developments and provisions for new developments)	<p>4. Continue upgrading storm water infrastructure using water sensitive urban design methods and ensuring that modelling caters for climate change</p> <p>1. Design new low cost and relocateable access pathways and fencing</p> <p>2. Review and amend building design specifications reduce vulnerability to climate change, i.e. reduce reliance on air-conditioning; improve water use, increase</p>	X	X	X		Manager Engineering Services	
							Manager Engineering Services	
							Manager Engineering Services	
							Manager Property Services	

		service lifetime						
IPS05	Review geotechnical information and establish information gaps and needs	<p>3. Investigate and implement standards to reduce sensitivity of inflexible infrastructure</p> <p>1. Request detailed geotechnical information from service providers in format suitable for review and analysis in council</p> <p>2. Develop Terms of Reference for Geotechnical works along the Coastal zone</p> <p>3. Source Funding for Geotechnical works along the Foreshore (partnership with state government)</p>	X	X	X	X	<p>Manager Property Services</p> <p>Manager Engineering Services</p> <p>Manager Engineering Services</p> <p>Grants officer</p>	

								Director Technical Services	
IPS07	Investigate opportunities to improve waste collection, management, reuse and recycling	4. Commission Geotechnical investigations at required locations					X	WMO/MSN	
		1. Continued community education in waste minimisation (see G06)	X					WMO/MSN	
		2. Explore increasing the percentage difference between a 120L and 240L bin waste service fee	X					WMO/MSN	
		3. Monitor change in landfill sites situated in the coastal and/or estuarine zone	X					WMO/MSN	
IPS08	Investigate opportunities for increased grey-water re-use and recycling	4. Investigate the feasibility of regional resource sharing agreements	X					WMO/MSN	
		1. Undertake a regional feasibility study into greywater treatment systems and storm water harvesting for playing fields	X					Manager Parks Services	

								Environmental Health Coordinator	
PPD01	Incorporate climate change scenarios into policy and decision making processes (planning specific)	2. Investigate opportunities for a management system to register properties that have grey-water systems	X				X	Manager Strategic Planning	
		Lengthen strategic planning horizons Revise planning guidelines for habitable floor levels to better protect future development						Manager Strategic Planning	
		Liaise with State Government to review/update pertinent policies and plans		X				Manager Strategic Planning	
		1. Initiate dialogue with the State government to ensure that there is action towards new policy and planning regimes that include a 'defendable line'					X	Manager Statutory Planning	

PPD02	Modify council planning approval process	<p>1. Work with member councils to adapt scheme developments to allow for: passive solar orientation and solar access, subdivisions to create 'walkable community' high density community hubs, engineered community water capture and re-use for irrigation and urban food gardens.</p> <p>2. Promote erosion and inundation sensitive urban design at the plan making and development assessment stages of the planning process: update planning schemes to give greater weight to erosion and flood risk</p>		X		Manager Strategic Planning	
				X		Manager Statutory Planning	

									Manager Property Services		
									X	Manager of Statutory Planning	
										Manager of Property Services	
									X		

3. Progressively incorporate higher design standards into asset management plans and rolling capital works programs

4. Modify local planning requirements for major developments, to put the onus on developers to provide geotechnical information to support decision making

5. Upgrade BCA to "Sustainable and commercial building case" to complement passive solar design development subdivisions - increased energy, water and materials efficiency.

NRM01	Review current plans and strategies to incorporate local climate change impacts into NRM plans	For example, biodiversity plan; strategic environmental plan; conservation management plans.	X			Bushcare officer	
	1. Review natural area management and coastal management plans, in light of outputs of the climate change risk assessment, to ensure that they incorporate the potential effects of climate change. This will inform management efforts (i.e. shift effort, abandon effort or increase effort) – Develop corridors for native vegetation along the coastal zone, and/or setbacks/greenbelts; use local indigenous native plant stock		X			Bushcare officer	

		2. Develop thresholds for unacceptable change in consultation with key stakeholders and the community 3. Incorporate thresholds for unacceptable change into NRM plans and strategies 4. Continue to provide financial and executive support for WESROC Greening Plan	X	X			Bushcare officer	
NRM02	Increase community awareness of the potential impacts of climate change to encourage private land conservation	1. See G03	X	X			Sustainability Officer	

<p>NRM03</p>	<p>Establish coastal and/or estuarine monitoring program</p>	<p>1. Establish extent of current monitoring regimes – what are existing monitoring programs *Where is monitoring undertaken? *How Often? *Who is the custodian? *What is the information currently used for? *How can this information be mainstreamed into coordinated adaptation planning?</p>	<p>X</p>	<p>X</p>	<p></p>	<p></p>	<p>Bushcare officer</p>	<p></p>
<p></p>	<p></p>	<p>2. Ensure that all existing information is collated to inform gap analysis identifying target areas for future focus based on RA outputs.</p>	<p></p>	<p>X</p>	<p></p>	<p></p>	<p>Bushcare officer</p>	<p></p>

NRM04	Protect species/ecosystems through active management controls, as appropriate	3. Communicate with state and federal government to ensure that local monitoring compliments work being undertaken under different umbrellas and may be used in a 'nested' fashion – use same	X			Bushcare officer	
		4. Develop partnerships with local universities to encourage research in WESROC – e.g. research projects focused on key issues id as result of risk assessment.	X			Bushcare officer	
		5. Design a comprehensive monitoring program based on evaluation of all above points		X		Bushcare officer	
		1. Investigate active management controls to reduce climate change impact on priority ecosystems	X			Bushcare officer	

		<p>2. Investigate funding opportunities to meet increased demands for management works in the foreshore zone (i.e. stabilisation works)</p> <p>3. Investigate opportunities for regional resource sharing to alleviate pressure on management staff</p>	X			Bushcare Officer Grants Officer	
			X			Bushcare Officer	
EM01	Review and update disaster planning and management	<p>1. Request information (from LEMC) on the step-by-step actions that would be required in a disaster situation. For example, evacuation measures, informing businesses of risk etc</p>	X			Coordinator Corporate Services	

<p>2. Undertake desktop scenario of potential climate change impacts on WESROC member councils and ensure outcomes of practice are incorporated into the disaster response plan</p>			X		<p>Coordinator Corporate Services (through supporting WCLEMC group)</p>	
<p>3. Ensure that the disaster response plan is adaptively managed. Review plan annually to ensure response options incorporate current climate change information. In addition, ensure communication of ER plan to the community.</p>	X				<p>Coordinator Corporate Services (through supporting WCLEMC group)</p>	
<p>4. Identify alternative options should the existing building and infrastructure be impacted upon in order to maintain services and connections</p>			X		<p>Manager Corporate Services</p>	

R01	Investigate opportunities to enhance water management	1. Commission study to investigate the use of 'green space' and provide recommendations for future watering allocations to greenscape in WESROC (Hydrozoning)		X		Manager Parks Services	
		2. Promote water efficient landscaping including increased community education on the importance of species selection with respect to water regimes		X		Manager Parks Services	
		3. Investigate alternative water supply options, i.e. rain water tanks, aquifer storage and recovery, grey water and groundwater and grass types; and liaise with Dept of Water to provide an inventory of private property bores.			X	Manager Parks Services	

R02	Investigate opportunities to maintain adequate public open space/landscaped areas and street trees	1. Facilitate advertising of clubs at local schools and events			X		Sustainability Officer	
		2. Identify land that may be allocated as POS, if required		X			Manager Parks Services	
		3. Educate the community on climate change and anticipated changes in open space			X		Manager Parks Services Sustainability Officer	
		4. Investigate alternative species that have higher resilience to the effects of climate change		X			Manager Parks Services	
		5. Commission study to investigate the use of 'green space' and provide recommendations for future watering allocations to greenscape in WESROC (hydrozoning)				X	Manager Parks Services	

R03	Monitor change in public open space (in particular, coastal erosion and condition of recreational facilities)	See NRM03		X		Bushcare Officer	
R05	Allocate resources to support maintenance and provision of recreational facilities	1. Improve staffing structure where possible		X		Director Technical Services	
		2. Implement documented cross departmental annual inspections		X		Director Technical Services	
		3. Evaluate opportunities for regional resource sharing		X		Director Technical Services	

References

IPCC

Town of Cottesloe 2011, *Carbon Inventory Report*. Available from:
<www.cottesloe.wa.gov.au> [13 September 2011]

WALGA 2011, *Climate Change Management Toolkit*. Available from:
<www.walgaclimatechange.com.au/index.htm> [13 September 2011]

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