

ILLAWARRA ESCARPMENT STRATEGIC MANAGEMENT PLAN 2015

Wollongong City Council



Acknowledgements

Wollongong City Council acknowledges that the Aboriginal people of the Dharawal, Wadi Wadi and Eloura tribe are the original occupants of the Illawarra and the original custodians of the environment. We understand the suffering and injustice that resulted from colonisation and that for many Aboriginal people this continues today. Wollongong City Council recognises that the Illawarra Escarpment and foothills have particular significance to local Aboriginal people.

This plan was prepared by Wollongong City Council in consultation with the NSW Department of Planning & Environment, National Parks & Wildlife Service, NSW Trade & Investment – Division of Resources & Energy and the Escarpment Planning Reference Group; comprising Councillors, landholders, community members, community group representatives and local Aboriginal representatives.

Wollongong City Council would particularly like to thank the Illawarra Escarpment Planning Reference Group, comprising Councillors, landholders, community members, community group representatives and local Aboriginal representatives, for their contribution and support for the development of this updated plan.

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1 Executive Summary

1.1 Review

The Illawarra Escarpment Strategic Management Plan 2015 (IESMP 2015) has been prepared by Wollongong City Council to update and replace the Illawarra Escarpment Strategic Management Plan endorsed by the NSW Minister for Planning in 2006. The update reflects the results of additional studies and changes made to land use zones in the Illawarra Escarpment associated with the development of the Wollongong Local Environment Plan 2009. The updated plan focuses on the role of Wollongong City Council in managing the Illawarra Escarpment in partnership with relevant government agencies and landholders.

The review has been conducted by Wollongong City Council in consultation with the NSW Department of Planning & Environment, National Parks & Wildlife Service, NSW Trade & Investment – Division of Resources & Energy and the Escarpment Planning Reference Group; comprising Councillors, landholders, community members, community group representatives and local Aboriginal representatives.

The IESMP 2015 is intended to maintain the conservation focus of the IESMP 2006 while reflecting the results of additional studies and changes to planning instruments since 2006. Additional studies integrated into the update include:

- Strategic Weed Management Plan – Illawarra Escarpment 2006 (BES, 2006);
- Illawarra Escarpment Heritage Assessment 2007 (Mayne-Wilson and Associates and Meredith Walker Heritage Futures, in association with Godden Mackay Logan Pty Ltd, 2007);
- Illawarra Escarpment Land Use Review Strategy 2007 (HLA-Envirosciences, 2007);
- Aboriginal Heritage Study: Illawarra Escarpment 2008 (Australian Museum Business Services, 2008); and
- Farmborough Heights to Mount Kembla Strategic Planning Study 2013 (GHD, 2013).

The updated IESMP 2015 maintains the key elements of the IESMP 2006 while bringing objectives, principles, planning considerations and actions up to date with current frameworks, most notably, the introduction of the Standard Instrument Local Environment Plan by the NSW Government in 2006 and the gazettal of the Wollongong Local Environment Plan (LEP) 2009.

1.2 Background

The Illawarra Escarpment is an iconic feature of the Illawarra region. It spans across public and private tenures and has a complex history of use spanning tens of thousands of years; from Aboriginal occupation through to a more recent history of agriculture, forestry, mining and residential use. Although in many areas the escarpment appears as a somewhat homogenous green backdrop to Wollongong, the escarpment is in fact a patchwork of pristine vegetation communities and more disturbed areas. The escarpment has complex and enduring Indigenous and Non-Indigenous cultural heritage value. It is due to

the importance of this icon in the hearts of so many that its management must be considered with appropriate care.

1.3 Vision

The IESMP 2015 is founded on the vision that the Illawarra Escarpment is an outstanding feature of the Illawarra region providing a natural backdrop to the city as well as encompassing areas of high conservation value and rich cultural heritage. The long term vision for this area is for these values to be preserved and enhanced through public reserve or private stewardship.

1.4 Escarpment Values

One of the objectives of the IESMP 2015 is to identify the environmental, cultural and economic values of the escarpment and foothills requiring conservation. Through the Commission of Inquiry (1999) and the development of the IESMP 2006, a broad range of values were identified as requiring preservation or enhancement. Section 4 of this plan reviews these values in order to help guide improvement works on the escarpment.

1.5 Land Use Planning

One of the primary roles that Wollongong City Council fulfils in the management of the Illawarra Escarpment is its land use planning function. Council has responsibility for developing the Wollongong LEP, as well as assessing planning proposals and development applications within its local government area. The Illawarra Escarpment is mapped in Wollongong LEP 2009 and is largely made up of environmental zones E1 National Parks and Nature Reserves, E2 Environmental Conservation, E3 Environmental Management and E4 Environmental Living. A number of desired future outcomes have been determined for these zones. Land use planning proposals in the escarpment will need to address these desired future outcomes and a number of assessment criteria are presented in Section 5.5.4.

The IESMP 2006 mapped the Illawarra Escarpment based on its environmental attributes and which identified areas as either Core Escarpment, Biophysical Support for Core, Landscape Support for Core and Escarpment Interface.

Core Escarpment land as defined in the IESMP 2006 has the following values:

- all areas identified by DEC (2002) (bioregional assessment) as having primary conservation significance;
- all areas identified as having archaeological significance to European cultural heritage and identified as being of state or regional heritage significance in the Wollongong LEP 1990 and the Illawarra REP (1986);
- 40m from the bank of all Category 1 streams identified by DIPNR (2004), plus a 10m buffer;
- all areas of escarpment face.

Biophysical Support for the Core Escarpment areas has the following values:

- all areas identified by DEC (2002) as being support for core areas,

- 20 m (at a minimum) from the 'top of bank' of Category 2 streams identified by DIPNR (2004) plus a 10 m buffer,
- all lands that have an unbroken boundary (ie. are surrounded) by Core Escarpment areas within the study area.

Landscape Support for the Core Escarpment areas has the following values:

- all lands (at a minimum) within 10 m from the banks of Category 3 streams identified by DIPNR (2004) plus a 10 m buffer,
- all lands identified as being within a floodway or flood prone area,
- all lands identified by DEC (2002) as being enhancement areas,
- all lands in the Illawarra escarpment unit having cultural landscape values identified in the 1981 Illawarra Regional Landscape and Environment Study at a level 5,
- all lands that have an unbroken boundary (that is are surrounded by) Biophysical Support areas within the study area boundary.

Escarpment Interface areas have the following values:

- areas of prime crop and pasture lands identified in the Illawarra REP (1986),
- areas identified as not being suitable for urban expansion in the Illawarra REP or currently zoned for urban use,
- land zoned 1 or 6a in the Wollongong LEP1990,
- land that is surrounded by landscape support within the study area boundary.

The IESMP 2006 proposed new zones for Wollongong LEP 1990 to reflect the values of these landscapes. In 2006, the State government announced a standardised approach to the production of LEPs, where all Councils in NSW would develop their local plans with common zoning definitions. This removed the ability for the new zones, presented in IESMP 2006, to be implemented. Instead, the Illawarra Escarpment Land Use Review Strategy 2007 applied the attribute mapping of IESMP 2006 to the Standard Instrument LEP zones and recommended new zones consistent with the Standard Instrument. The Land Use Review Strategy, along with public exhibition of the draft Wollongong LEP 2007 informed the development of Wollongong LEP 2009, such that the attribute mapping conducted in 2006 was no longer required in the IESMP 2015. Although the mapped escarpment attributes are not included in IESMP 2015, the environmental attributes of the escarpment remain central to its strategic management. Any planning proposals or Development Applications on the escarpment will need to undertake detailed mapping of these values as a part of addressing the IESMP 2015.

1.6 Pressure State Response Model

The IESMP 2015 utilises a pressure state response model for managing the Illawarra Escarpment. This model identifies the pressures or key threatening processes on an asset be it natural, cultural or economic, then identifies the current state these assets are in and from these two elements a response is determined to mitigate or minimise the threats to the asset.

A number of pressures have been identified as impacting on the escarpment, notably; mining, pest animals, weeds, bush fire, land clearing/fragmentation, urban encroachment, high visual impact development, agriculture, climate variability (weather extremes and seasonal variation) and unauthorised access.

Measures of the state of the escarpment are limited by available technology and budget. Current data on the state of the escarpment includes vegetation mapping, digital elevation and digital surface models, visual quality assessments, landslip mapping and a heritage register.

The response element of the model occurs where Council's normal operations impact on escarpment management, such as in the case of Bush Fire management, and specifically with the range of actions detailed in the Illawarra Escarpment Action Plan presented in Chapter 6.

1.7 Illawarra Escarpment Action Plan

The action plan has been developed in order to assist Council to progress the objectives of the IESMP 2015 utilising available resources. The IESMP 2015 is considered a Supporting Document to Council's Integrated Planning and Reporting Framework. It is anticipated that the Action Plan will be utilised to guide Council actions over the next five years and then be subject to review along with a future update to the IESMP. Actions have been developed in three key themes:

- Community Capacity;
- Planning; and
- Governance.

The Community Capacity theme presents actions and strategies related to improving the level of understanding and appreciation of the values of the Illawarra Escarpment. It is also recognised that actions relevant to this theme may emerge from future landholder or general community proposals presented to Council.

Community Capacity Objectives:

- Increase understanding of escarpment values and management challenges.
- Increase appreciation of the escarpment.
- Develop skills and knowledge relevant to the ongoing management of the escarpment.

The Planning theme presents actions and strategies related to utilising the capacity of Council to influence land use planning outcomes on the escarpment.

Planning Objectives:

- Improve Illawarra Escarpment land use planning.
- Conserve Core Escarpment areas.

The Governance theme presents actions and strategies related to Council taking a leadership role in preserving and enhancing the values of the Illawarra Escarpment. It includes actions related to improving the evidence base for Council decisions on escarpment matters.

Governance Objectives:

- Provide leadership on escarpment matters.
- Develop the evidence base to help guide policy development and decision making.

2 Introduction

The Illawarra Escarpment is one of the most important landscape and cultural features of the Illawarra region and has high aesthetic and environmental value to the Illawarra community. It has a deep and complex cultural and spiritual significance for the Aboriginal community. Since 1788, the escarpment has been viewed, chronologically as a constraint to be overcome, a resource to be exploited and an asset to be preserved.

This plan was prepared by Wollongong City Council in consultation with the NSW Department of Planning & Environment, National Parks & Wildlife Service, NSW Trade & Investment – Division of Resources & Energy and the Escarpment Planning Reference Group; comprising Councillors, landholders, community members, community group representatives and local Aboriginal representatives.

The plan is an updated version of the Illawarra Escarpment Strategic Management Plan 2006 (IESMP 2006) and has been informed by a number of studies which include:

- Commission of Inquiry into the Long Term Planning and Management of the Illawarra Escarpment (Simpson, 1999)
- Bioregional Assessment (flora and fauna) Parts 1–3 (NSW National Parks and Wildlife Service, 2002b);
- Riparian (Creek) Corridor Management Study (DIPNR, 2004);
- Landslip maps – University of Wollongong and Wollongong City Council (Flentje, 2007);
- Strategic Weed Management Plan (BES, 2006);
- Strategic Management Plan for Historic Coal Mining Sites of the Illawarra (OHM Consultants, 2006);
- Illawarra Escarpment Heritage Assessment (Mayne-Wilson and Associates and Meredith Walker Heritage Futures, in association with Godden Mackay Logan Pty Ltd, 2007);
- Illawarra Escarpment Land Use Review Strategy (HLA-Envirosciences, 2007);
- Aboriginal Heritage Study: Illawarra Escarpment (Australian Museum Business Services, 2008);
- Illawarra Biodiversity Strategy (Wollongong City Council, 2011);
- Illawarra Regional Food Strategy (Wollongong City Council, 2013); and
- Farmborough Heights to Mount Kembla Strategic Planning Study (GHD, 2013).

It also refers to studies that directly affect the planning and management of the escarpment, these include:

- Illawarra Escarpment State Conservation Area: draft Plan of Management (NSW National Parks and Wildlife Service, 2011)
- Bush Fire Risk Management Plan (Illawarra Bush Fire Management Committee, 2008); and
- Bushfire Asset Protection Zone Risk Management Study (BES, 2006).

2.1 Illawarra Escarpment Boundary

The Illawarra Escarpment forms a natural boundary and scenic backdrop to the Wollongong coastal plain. Although the landform extends south beyond the boundary of Wollongong Local Government Area (LGA), this management plan is limited to the Wollongong LGA.

It is difficult to define a boundary for the Illawarra Escarpment due to the variety of landscape features that comprise the Illawarra Escarpment. The existence of residential development such as Mount Kembla village in areas with escarpment landform characteristics further complicates the process. In particular, in the north of the Wollongong LGA there is typically a steep transition from the escarpment and the coastal plain, whereas the south has significant areas of rolling foothills comprising elevated benches of relatively flat land. No single elevation represents where the coastal plain ends and the escarpment begins. The boundary of the Illawarra Escarpment has been defined differently in:

- The Illawarra Regional Environmental Plan (1986);
- Commission of Inquiry into the Illawarra Escarpment and Coastal Plain (1999);
- Illawarra Escarpment Strategic Management Plan (2006); and
- Wollongong Local Environment Plan 2009.

For administrative purposes and to provide clarity, the most recent definition from the Wollongong LEP 2009 is used in this document. A map of the Illawarra Escarpment Study area is provided in Figure 1.1. As discussed further in this document, escarpment values and considerations often extend beyond this boundary, however, the Wollongong LEP 2009 boundary is the trigger used for consideration of Illawarra Escarpment issues in land use planning proposals.



Figure 1.1 Illawarra Escarpment Boundary as defined in Wollongong Local Environment Plan 2009.

2.2 History of the Illawarra Escarpment

2.2.1 Aboriginal History

The Aboriginal world view of the Dreaming differs from the linear historical perspective of Non-Indigenous history. Traditional Aboriginal people view the land as an intrinsic part of their existence. As such, the Illawarra Escarpment is not simply a landmark or area to shelter in or traverse, but an integral part of their reality.

The Illawarra Escarpment is central to numerous dreaming stories that integrate the lores, customs and protocols to which the Aboriginal peoples encompassed by the escarpment adhere. “Warra Bingi Nunda Gurri” is the escarpment Dreaming. It includes all living things; it is as much about Aboriginal people as it is about the plants, bird and animals of the escarpment. It embraces the seasons, spirituality and teachings of Aboriginal culture. It is central to Aboriginal belonging.

Aboriginal people have occupied the Illawarra for at least 20,000 years. The Illawarra was well populated before European contact due to the abundant natural resources of the escarpment and coastal plain. The escarpment contains many important Aboriginal cultural sites associated with ceremonial practices and gathering food and medicine (NPWS, 2003). Many of these are not yet documented (Australian Museum Business Services, 2008).

The traditional Aboriginal clans of the Illawarra belonged to the Dharawal language group (Organ, 1997). The settlement of the Illawarra, initially by escaped convicts, then through government land grants, substantially displaced local Aboriginals from utilising the escarpment and coastal plain. Corroborees were held in the area up until 1870. The escarpment provided opportunities for Aboriginal occupation into the 20th century due to its steepness and vegetation making it unsuitable for cultivation by the colonisers (Kass, 2010).

2.2.2 Recent History

Following European settlement, the escarpment has not always been so heavily vegetated. Many early paintings and photographs of the escarpment show a region full of ringbarked trees and cleared vegetation as mining and forestry harvested much of the vegetation (Figure 1.2). Therefore, a large portion of the escarpment is in a state of regeneration from these extractive practices.

Mining and agricultural activities continue within the escarpment today. In recent years, the escarpment has increasingly been under pressure for housing development. Although the Illawarra Escarpment is not seen as an area suitable for urban release like the coastal plain, it remains highly attractive for residential development. Once escarpment land is developed for housing, its potential to contribute to broader cultural, environmental or scenic values is either removed or diminished. There is strong community pressure on Council for there to be no further development of the escarpment for housing.

The community, various non-government organisations as well as a range of government agencies, have all expressed concern for the preservation and conservation (of the natural and cultural resources) of the escarpment over many years. The escarpment is a collective asset that must be planned for and conserved by collective effort and commitment.

The escarpment has ongoing cultural significance for the Illawarra Aboriginal community. Conservation of escarpment land is of central importance to maintaining local Aboriginal cultural heritage.

Community concern for conservation of the escarpment arose alongside the development of environmental awareness from the 1960s. More intensive involvement emerged with the establishment of the Illawarra Escarpment Working Party (IEWP) in October 1990. The IEWP operated under the leadership of Wollongong City Council with various members from 1990 to 1997.

Part of the role of the Illawarra Escarpment Working Party was to comment on rezoning proposals in the Illawarra Escarpment. Examples of inappropriate development on the escarpment increased until submissions regarding concern for the management and planning of the escarpment were made to the NSW Minister for Urban Affairs and Planning on behalf of Wollongong City Council, as well as many residents. These prompted the Minister to announce a 'Commission of Inquiry into the Long Term Planning and Management of the Illawarra Escarpment and Coastal Plain'. The Commission of Inquiry (COI) began conducting hearings on 7 December 1998 and the final report was completed in May 1999.

In December 2000, the NSW Government announced its broad endorsement for implementing the recommendations of the COI into 'The Long Term Planning and Management of the Illawarra Escarpment' (see section 3.1). Following the COI, a number of studies were undertaken and a public consultation process guided the development of the Illawarra Escarpment Strategic Management Plan which was endorsed by Council in 2005 and the NSW Minister for Planning in May 2006.



Figure 1.2 Moore St Austinmer showing ring barked trees

2.3 Vision

This management plan is founded on the following vision for the escarpment:

The Illawarra Escarpment is an outstanding feature of the Illawarra region providing a natural backdrop to the city as well as encompassing areas of high conservation value and rich cultural heritage. The long term vision for this area is for these values to be preserved and enhanced through public reserve or private stewardship.

2.4 Objectives

The objectives of the IESMP 2015 are to:

1. identify the environmental, cultural and economic values of the escarpment and foothills requiring conservation;
2. define the principles and strategic direction for protecting and enhancing escarpment values.
3. outline an action plan for Council to improve escarpment management.

2.5 Principles

The IESMP 2015 is based on a number of guiding principles that include:

- the Aboriginal people are the original custodians of the environment;
- the escarpment has important natural and cultural heritage values which need to be preserved;
- some areas of the escarpment are in a degraded state and therefore require active management;
- any development of the escarpment should result in an overall conservation improvement to the escarpment;
- private stewardship of escarpment land is required to protect and enhance escarpment values;
- partnerships between land managers and government is required to improve the condition of the escarpment;
- all sectors of the community need to be engaged in asset management;
- an adaptive management approach is required to ensure actions are effective;
- the escarpment must be considered as a whole to avoid multiple small decisions leading to negative cumulative impacts;
- a long term strategic approach should be adopted; and
- Ecologically Sustainable Development principles should be applied in managing the assets of the escarpment*.

*Ecological Sustainable Development (ESD) is defined by the National Strategy for ESD as:

Development that improves the total quality of life, both now and in the future, in a way that maintains ecological processes on which life depends.

The ESD principles articulated for local governments, that underpin the definition of ESD include:

- Precautionary principle – whereby lack of scientific certainty doesn't prevent you taking mitigating measures to prevent impact;
- Intra and inter-generational equity – fairness and equal access to opportunities both in our lifetimes and for future generations;
- Environmental valuation – placing a value on the environmental resource;
- Ecological integrity – protecting biological diversity and maintaining essential ecological processes and life support systems;
- Community consultation – the community should be consulted about the ecological, social and economic considerations in decision making;
- Continual improvement – there is an imperative to take immediate action to become more sustainable; and
- Integration – the effective integration of environmental, social and economic considerations in decision making.

Many of these principles have been recurring themes throughout the Commission of Inquiry as well as the various consultative forums. Commissioner Simpson discussed the precautionary principle a number of times throughout his report and stressed the need to determine management options and priorities according to this principle.

2.6 Role of Council

Council has limited direct control of outcomes on the Illawarra Escarpment due to its minor status as a land owner on the escarpment and the limitations of its legislative power. The primary managers of escarpment land are the National Parks and Wildlife Service (approximately 29% of the escarpment), and the many private landholders (approximately 60% of the escarpment).

The influence of Council on the Illawarra Escarpment is confined to its role in developing and implementing local planning controls and working with land managers within the escarpment as well as the broader community. The limited ability of Council to directly affect escarpment management is an underlying assumption in the preparation of this plan.

Although Council is limited in its ability to directly control outcomes on the Illawarra Escarpment, the content of this plan provide the basis for Council, land managers and the community to work in partnership to maintain and improve the escarpment as a natural backdrop to the city, as well as encompassing areas of high conservation value and rich cultural heritage.

3 Background

3.1 Commission of Inquiry (1999)

The Commission of Inquiry (COI) into the Long Term Planning and Management of the Illawarra Escarpment was announced by the then Minister for Urban Affairs and Planning on 19 October 1998. The terms of reference for the COI required the Commissioner to formulate and recommend appropriate and long term land use planning, development control and land management measures to protect and conserve the environment of the escarpment. Ancillary to this, the Commissioner was required to recommend criteria for identifying land to form “core” and “non core” escarpment areas and to recommend the appropriate ownership and management arrangements for such land.

Commissioner Simpson conducted the COI during December 1998 and January 1999. 118 parties made written submissions to the inquiry, 58 parties made oral submissions in the primary sessions and 19 parties appeared in the submission in reply session.

In May 1999, the Commissioner released his written report. The report made 22 recommendations on broad strategic planning, policy and environmental management issues. It also commented on specific land use change and development proposals (see a précis of the COI recommendations in section 3.1.1).

The findings were critical of past approaches to planning and landuse management of the escarpment and fringe escarpment land. The criticism was principally aimed at a lack of comprehensive constraints mapping to underpin the Fair Trading Policy (FTP) and Rural Residential Policy (RRP). While these policies recognised the need for, and indeed required rigorous constraints investigation with each proposal, the COI found that these investigations should have occurred as part of the preparation of the policy rather than on a site-by-site basis as had been the case.

The major recommendations of the COI were aimed at redressing this lack of baseline constraint mapping. The Commissioner supported the fair trading concept as a means of acquiring environmentally significant land. Protection and conservation of the escarpment through acquisition into public ownership was seen by the Commissioner as a preferred option for future management. Both the Commissioner in his report and the Minister in his announcement in support of the COI identified as a priority, the creation of a regional park under the National Parks and Wildlife Act, 1974. However, neither the Minister nor Commissioner addressed the issue of how the acquisition of this area would be achieved. The issue of transition of escarpment land into public ownership remains a challenge, and is considered further in this report.

3.1.1 Commission of Inquiry Findings

The Commissioner concluded that the management, planning, conservation and protection of the escarpment should be as a single entity. It was concluded that the escarpment must be considered in a total catchment management framework (including riparian land function, downstream hydrology and flooding on the coastal plain). Similar planning principles should apply to the ecology, visual and heritage significance. Simplistically, the visual backdrop of the escarpment requires the preservation of the tree line in both the core and non-core escarpment land. The Commissioner’s findings detailed below

contend that development must not be allowed to dominate the escarpment and that habitat and biodiversity considerations are not limited or restricted to zoning boundaries.

- The implementation of the Fair Trading Policy, despite the objectives of the zonings under the Local Environment Plan, has resulted in increased intensity of development in environmentally zoned 7(b) land.
- The Rural Residential Policy and Fair Trading Policy are not explicit in providing an adequate guide to the extent of development to emerge from these policies.
- Wollongong City Council (WCC) has placed too much emphasis on conservation and securing of Core Escarpment 7(a) lands into public ownership to the detriment (environmental and conservation) of the environmentally zoned 7(b) land.
- There has been a lack of ecological appraisal for the environmental capacity of environmentally zoned 7(b) lands to accommodate the likely level of development as a result of the Fair Trading Policy (FTP). Similarly, inadequate consideration has been given to the cumulative impact of development in the environmentally zoned 7(b) land.
- Consideration of upstream/downstream impacts of rezoning proposals has not occurred, particularly as it relates to past mining activities, catchment management principles and coal waste deposits and land stability.
- The decision making of some rezoning lacked any understanding of ecological/biological principles and the inter-relationship between Core Escarpment 7(a) and environmentally zoned 7(b) land, the escarpment and coastal plain.
- There has been inadequate consultation with relevant State Government departments and the community at initial stages of rezoning applications.
- The State and Regional significance of the escarpment needs to be determined so a proper assessment can be made of development impacts at the local and regional level.
- The outcome of the constraint mapping studies may suggest that the majority of the escarpment is unsuitable or incapable of further rural or residential development.
- The present approach to environmental planning and management of the escarpment is inadequate.
- More detailed provisions are required in the Illawarra Regional Environmental Plan 1986 concerning management and conservation of the escarpment that should be directly related to the principles of ESD.

3.2 Illawarra Escarpment Strategic Management Plan 2006

Following the COI, a whole of government Project Coordination Team (PCT) comprising state government agencies and Council was established in 2001. The PCT was led by the then Department of Infrastructure Planning and Natural Resources. In order to engage the broader community, an Illawarra Escarpment

Community Reference Group (IECRG) was established in October 2002. The IECRG reviewed the draft IESMP between 9 August 2003 and 5 November 2003. The IECRG feedback reflected frustration that the group had insufficient time to discuss the range of issues involved in the draft IESMP. The process of developing the draft IESMP involved:

- multiple meetings of the IECRG to discuss aspects of the draft plan;
- three workshops conducted by CSIRO as part of the Social Study, these workshops focussed on community perceptions of proposed land use changes;
- consultation occurred with over 100 (mostly landholders) to inform the commission studies and develop the framework for the draft plan.

The draft Illawarra Escarpment Strategic Management Plan was publically exhibited between February and May 2004.

In response to the exhibition, 278 submissions were received on the draft IESMP, including a range of views. Many submissions also suggested improvements to the Plan and requests for special consideration with regard to certain properties.

Review of the submissions revealed a number of key issues that were consistently raised regarding:

- The need for more funding for the escarpment;
- The likely negative effect of the IESMP on escarpment land values;
- The inequity of proposed zonings on land not developed prior to the Commission of Inquiry;
- Confusion over existing use rights;
- The need for financial compensation for landowners in the escarpment;
- Criticism of the Tradeable Development Rights concept;
- Inadequate time to consider the draft IESMP;
- Inadequate consideration of bushfire management;
- Incorrect mapping of escarpment values and boundary;
- Objection to the concept of an Escarpment Regional Park – public ownership will lead to neglect; and
- Not all of the COI recommendations were addressed by the IESMP.

In May 2005, Council endorsed the Illawarra Escarpment Strategic Management Plan to be submitted to the NSW Minister for Planning. The Minister endorsed the amended Illawarra Escarpment Strategic Management Plan in May 2006.

Notable changes made between the Council endorsed draft and the adopted IESMP 2006 were:

- Management Structure – to be a committee of Council rather than a separate State Authority;
- Where the IESMP overlaps the West Dapto Structure Plan, the West Dapto Structure Plan takes precedence; and
- The proposed Entitlement Transfer Scheme be removed from the IESMP.

3.2.1 Management Structure

The IESMP 2006 called for a Committee of Wollongong Council to manage the implementation of the plan. The Escarpment Planning Reference Group was established by Council at its 26 March 2012 meeting. The reference group is made up of three Councillors, representatives of community groups, individual community representatives, landholder representatives and Aboriginal representatives. The reference group is supported by agency advisors from the NSW Department of Planning and Environment, the Office of Environment and Heritage, Local Land Services and the National Parks and Wildlife Service. The group meet bi-monthly to progress the implementation of the actions within IESMP 2006 and comment on relevant rezoning proposals. In 2014, the group has focussed on reviewing and updating the IESMP. The group will continue to meet on an as needs basis.

3.2.2 Management – Investigation and Planning Phase

The management measures proposed by the IESMP 2006 were summarised as key actions in two phases. The first phase was the investigation and planning phase. This consisted of studies to inform the management of the Illawarra Escarpment and contribute further information to the revision of land use zoning. The second phase consisted of on-ground works programs arising from the recommendations of the studies. In some cases, the actions identified within the IESMP 2006 mirrored actions and/or initiatives which had already been identified in other plans or which were required by legislation/agency guidelines.

Several major studies were conducted as part of the Investigation and Planning Phase of the IESMP 2006:

- Land Use Review Strategy (HLA-Envirosciences, 2007);
- Aboriginal Heritage Study (Australian Museum Business Services, 2008);
- Non-Indigenous Heritage Assessment (Mayne-Wilson and Associates and Meredith Walker Heritage Futures, in association with Godden Mackay Logan Pty Ltd, 2007);
- Strategic Weed Management Plan (BES, 2006);
- Visual Quality Analysis (DSB Landscape Architects, 2006); and
- Riparian Corridor Policy Study (HLA-Envirosciences, 2006).

Actions identified within the Investigation and Planning Phase of the IESMP 2006 are described in Appendix C. This is to provide a snapshot of their status at the time of the preparation of this updated plan.

3.2.3 Management – On-ground Works

The on-ground works programs proposed by the IESMP 2006 are generally components of broader Council management programs. Biodiversity, weed, riparian corridor, erosion, feral animal control, heritage, bush fire, and asset management are all considered as part of Wollongong-wide Council

programs. The level of on-ground works occurring in the Illawarra Escarpment is limited by the small proportion of Council land located within the escarpment (approximately 5% of the escarpment study area) and current operational budgets. Progress on the on-ground works phase is summarised in Appendix D.

3.3 Illawarra Escarpment Land Use Review Strategy (2007)

Following the endorsement of the IESMP in May 2006, Wollongong City Council commissioned the preparation of the Illawarra Escarpment Land Use Review Strategy (IELURS). The IELURS was completed and endorsed by Council in August 2007.

The initial draft Wollongong LEP translated Wollongong LEP 1990 zones into their most appropriate standard template zone. The IELURS reviewed these planning controls in the escarpment against the objectives and attributes mapping of the IESMP 2006. It recommended zonings and additional clauses to be exhibited as part of Draft Wollongong LEP 2007 and Draft West Dapto LEP 2006.

The IELURS reviewed the entire IESMP 2006 study area. For areas where extensive areas were mapped as Core Escarpment or Biophysical Support for Core Escarpment, environmental zones were recommended in favour of Rural Zones. The IELURS also developed additional analysis of the scenic and visual character of the Illawarra Escarpment through a Visual Quality Analysis and provided additional information on subjects such as bush fire management and built form to support the development of Wollongong Development Control Plan (DCP) 2010 Chapter B6 Development in the Illawarra Escarpment.

The IELURS took into account the Strategic Weed Management Plan for the Illawarra Escarpment 2006, and was undertaken concurrently with the Illawarra Escarpment Heritage Assessment Part II 2007 and the Aboriginal Heritage Study 2008.

3.4 Wollongong Local Environment Plan 2009

The draft Wollongong LEP was exhibited between December 2008 and April 2009. The draft LEP included zones recommended by the IELURS which was a supporting document to the exhibition. In consideration of issues raised in submissions, Council revised some zonings and zone boundaries in the escarpment from those recommended by the IELURS. The Wollongong LEP 2009 was endorsed by Council on 28 July 2009 and approved by the Minister for Planning on 26 February 2010.

3.5 Farmborough Heights to Mount Kembla Concept Plan

In adopting the Illawarra Escarpment Land Use Review Strategy in 2007, Council resolved that the Farmborough Heights to Mount Kembla precinct required a Master Plan to guide future zoning. In 2011, the Department of Planning recognised the potential for appropriately scaled and located development in the study area. Council resolved in 2012 to engage consultants to develop a Concept Plan for the area. In December 2013 the Plan was endorsed by Council following public exhibition. The Department of Planning endorsed the Plan in March 2014.

The Farmborough Heights to Mount Kembla Concept Plan was accompanied by a set of planning principles consistent with the Illawarra Escarpment Strategic Management Plan. Following the exhibition of the draft Plan, additional principles were endorsed by Council.

- The provision of limited residential development must be considered within the context of active conservation and as a secondary outcome (COI);
- Planning proposals must provide justification in terms of specific conservation initiatives proposed to enhance the escarpment for the long term; and
- A corridor of rural and bushland around the eastern approaches to Mt Kembla must be maintained to provide a separation from Cordeaux Heights and to preserve the historic identity of Mt Kembla Village.

Individuals within the study area are responsible for submitting planning proposals to Council. However, these will be considered with regards to the Concept Plan and must demonstrate mechanisms by which the rezoning will lead to an overall conservation improvement for the escarpment or foothills.

3.6 Ownership

The Illawarra Escarpment, as defined in this plan, contains approximately 2000 parcels of land in approximately 1300 separate ownerships. The majority of the area is in private ownership, with 40.5% in public ownership.

National Parks and Wildlife Service account for almost 29% of the escarpment area, with all other public land owners combined making up the remaining 11%.

Table 2. Escarpment ownership.

Public	Area Ha.	Proportion
Private	5732.8	59.5%
National Parks and Wildlife Service	2784.6	28.9%
Wollongong City Council	446.2	4.6%
Water NSW	379.8	3.9%
Roads and Maritime Services	123.7	1.3%
Sydney Water Corporation	59.7	0.6%
State Rail Authority of NSW	45.9	0.5%
Rail Corp	43.8	0.5%
Land and Property Management Authority	20.2	0.2%
Department of Education	0.6	0.0%
TOTAL	9637.3	

3.6.1 Mining

Mining companies are significant landholders in the escarpment due to the long and ongoing history of coal mining in the escarpment. There are currently three active mines within the study area. In the financial year 2012–13, approximately 5,824,337 tonnes of coal was extracted from these mines.

- Wongawilli Colliery – 496,851 tonnes Run of Mine coal
- Russell Vale Colliery – 784,733 tonnes Run of Mine coal
- Dendrobium Colliery – 4,542,753 tonnes Run of Mine coal

The Illawarra Escarpment State Conservation Area (IESCA) was established in 1980 following an initial donation of land from Australian Iron and Steel Pty Ltd (now BHP Billiton). Mines that are no longer active and have been rehabilitated are sometimes suitable for redevelopment. Since 2006, mine redevelopment options in the escarpment have been considered in light of the objectives of the IESMP 2006.

A summary of the current status of mines within the study area is presented in Appendix A.

Mining has brought economic benefits to the Wollongong LGA. Mining companies currently contribute towards the active management of the Illawarra Escarpment through weed, bush fire and pest management. The Illawarra Escarpment State Conservation Area has also been established above mine sites, where the surface is managed by the NPWS, but the underlying resources are owned by the coal companies.

Current mining activity is largely regulated by the state government. Mining activities are monitored and reviewed by the Illawarra Coal Mine Interagency Group, made up of representatives from the Department of Trade & Investment, National Parks and Wildlife Service, Environmental Protection Agency, Water NSW, Office of Environment and Heritage and Wollongong City Council. The group review Mining Operations Plans and Annual Environmental Management Reports submitted by active mine operations. Current mining operations are regulated to ensure that activities do not lead to significant environmental impacts.

3.6.2 Farmland

Wollongong has a proud history of agriculture, with a particularly advanced dairy farming industry existing for much of the 20th Century. With increased planned urban development in West Dapto, and economic restructuring of the dairy sector, agricultural land use has progressively declined in Wollongong.

Under Council's Fair Trade and Rural Residential Policies, some landowners subdivided their land as a means of transitioning from agricultural or rural use to residential use, in some cases, dedicating parcels of land to Council to contribute to a future escarpment reserve. These policies were repealed following the recommendations of the COI 1999, and Council has not re-instated these policies.

Following the repeal of the Fair Trade and Rural Residential Policies, some residents have expressed frustration at no longer having a clear policy framework for developing former farmland for residential purposes (West Dapto Rural Ratepayers Association, 2003).

In the south of the Wollongong LGA, the landform of the escarpment is less steep than the northern areas. Within this environment of hills and valleys between the coastal plain and the steep escarpment, agricultural activities have historically been pursued. The nature of the landform in this area has made land use planning more difficult and it has been considered as part of both the West Dapto Urban Release Area and Illawarra Escarpment planning processes. As the rezoning and development of West Dapto progresses, the interface between the escarpment and West Dapto will need to be carefully managed.

There is growing evidence of the importance of local food production for food security and health. In many instances across the world and even as close as the south coast of NSW, food is being produced on relatively small lots in proximity to local markets. The potential for small scale, diversified, regenerative food production to form a part of the future management of the escarpment foothills has not been closely examined as yet.

3.6.3 Dedication of Land to Public Ownership

The conservation of the Illawarra Escarpment in a continuous reserve has been mooted since 1971 (Natural Heritage Society Report). A primary motivation for the Fair Trading Policy was the transfer of core escarpment land into public ownership. This theme was again reflected in the COI 1999 which called for core escarpment land to be dedicated to the creation of a National Park.

The history of land dedication is complex, with the Illawarra State Conservation Area retaining the rights for underground mining. The current extent of National Parks managed reserve in the Wollongong Local Government Area is shown in Figure 2. Also, some parcels of land dedicated under the now defunct Fair Trade Policy were not accepted as part of the reserve system by NPWS due to their condition or isolation from the broader reserve. These parcels are retained in Council ownership with a view to future integration into National Parks Reserve.

Although an increase in the continuity and extent of the Illawarra Escarpment State Conservation Area is desirable to aid the conservation and management of high conservation land, Council cannot dictate this process. Dedication of land to National Parks reserve is considered by NPWS on a case-by-case basis. All proposals for dedication of land to append the Illawarra State Conservation Area are reviewed by the Office of Environment and Heritage.

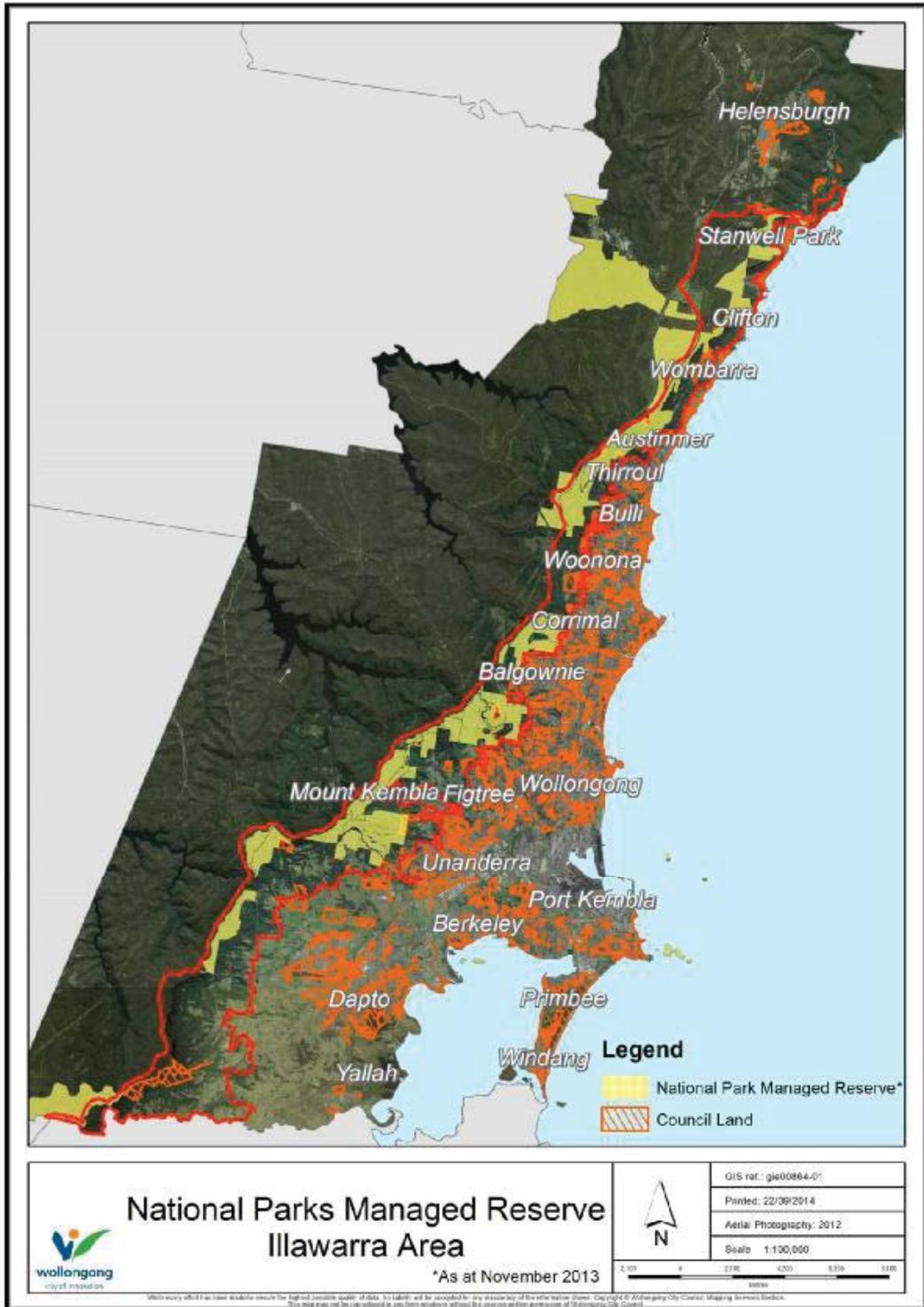


Figure 3.1. Map of the Illawarra Area National Parks managed reserve and Council land relative to the Illawarra Escarpment boundary and the Wollongong Local Government Area.

3.6.4 Stewardship

In 2006, the Illawarra Escarpment Strategic Management Plan (IESMP 2006) acknowledged that a broader concept of an escarpment 'park' must be considered where dedication to reserve was not the only means of conserving the escarpment. It suggested voluntary conservation agreements and a range of financial and non-financial incentives could be used to encourage management consistent with the principles applied to managing National Parks reserves.

Since the endorsement of the IESMP in 2006, Council has focussed primarily on the development of Local Environment Plan zones on the Illawarra Escarpment. The long term process of Council working with landowners to support and encourage conservation activities on the escarpment outside of normal planning functions is yet to occur. This updated IESMP 2015 endeavours to develop this capacity through actions detailed in Chapter 6.

4 Escarpment Values

One of the primary objectives of the IESMP 2015 is to identify the environmental, cultural and economic values of the escarpment and foothills requiring conservation. Through the COI and the IESMP 2006, a broad range of values have been identified as requiring preservation. This section reviews the range of values to be considered in escarpment management. Over time, and with increased knowledge of the escarpment, these values will be further refined and measured.

4.1 Environmental Values

4.1.1 Biodiversity

The Illawarra Escarpment is situated within the Sydney Bioregion which extends from Newcastle in the north, to Batemans Bay in the south (NSW National Parks and Wildlife Service, 2002a). Many plants within the escarpment are at the limits of their northern or southern extent leading to a high biodiversity as these subregional communities overlap. The escarpment is unique within this bioregion due to its dramatic form, climate and geology. With high rainfall, fertile soil and warm temperatures, it supports many vegetation communities restricted to the Illawarra region, in particular, extensive rainforests (NSW National Parks and Wildlife Service, 2002a).

Biodiversity Values to be Preserved or Enhanced

- Natural ecosystem function;
- Connectivity – moist forest escarpment linkage, Yallah Calderwood linkage, plateau forest woodland/heathland linkage;
- Vegetated buffers – high conservation value ecosystems require vegetated buffers to reduce edge effects;
- Healthy systems to support food production;
- High air quality associated with ecosystem services;
- Genetic diversity for resilience to climate change;
- Carbon sequestering; and
- Rare and endangered species, communities, habitats and populations.

4.1.2 Water

There is very little documented evidence of the location of groundwater and aquifers within the Illawarra Escarpment. Despite this lack of detail, underground water supplies are likely to be integral to the survival of sensitive vegetation communities such as rainforests and above the escarpment, swamplands. Also, activities within the escarpment such as mining and agriculture are likely to be modifying downstream water quality and quantity.

In particular, current and past mining activities are likely to be modifying groundwater and surface water quality and quantity. Contamination/pollution of surface water such as creeks and streams from domestic and other human presence, mine tailings and disposal, particularly where they have entered streams following mining operations are all processes that can negatively affect water values.

Streams and creeks are important features linking the escarpment to the coastal plain and ocean. Management of water quality and quantity is important for maintaining the health of these waterways and their receiving systems.

Improved knowledge of water values and processes affecting water such as the location of water storage areas, source pollutants and stream modifications is required to guide management options.

Water Related Values to be Preserved or Enhanced

- Natural ecosystem function;
- Water quality – for human use or ecological function;
- Reduction of bed and bank erosion;
- Reduced risk of flooding;
- Enhancement of riparian vegetation and reliant ecosystems;
- Natural water supply to dependent ecosystems; and
- Visual quality – waterfalls, streams and pools, cultural heritage.

4.2 Cultural values

The physical prominence of the escarpment has profoundly influenced the history of the Wollongong LGA and continues to be an integral part of the City's sense of place (Mayne-Wilson and Associates and Meredith Walker Heritage Futures, in association with Godden Mackay Logan Pty Ltd, 2007). It has historical, present and future cultural value to the city as well as being an important repository of natural and cultural heritage. The relationship between people and the escarpment is highly complex (Macquarie, 2013). For the purposes of this plan, several key areas of cultural value are highlighted and discussed.

4.2.1 Scenic Value

There has been no formal comparison of the Illawarra Escarpment with other places. However, there are strong parallels between the escarpment, its history of use, proximity of urban development and public appreciation and the foreshore of Sydney Harbour and parts of the Blue Mountains (Mayne-Wilson and Associates and Meredith Walker Heritage Futures, in association with Godden Mackay Logan Pty Ltd, 2003). Similar to Sydney Harbour and the Blue Mountains, the escarpment has strong cultural and natural heritage value.

The visual quality of the escarpment is generally regarded as exceptional or very high (HLA-Envirosciences, 2007). A Visual Quality Analysis of Escarpment Scenic Values undertaken on behalf of

Council in 2006 identified several precincts of distinctive character with varying levels of visual value (Figure 4.1).

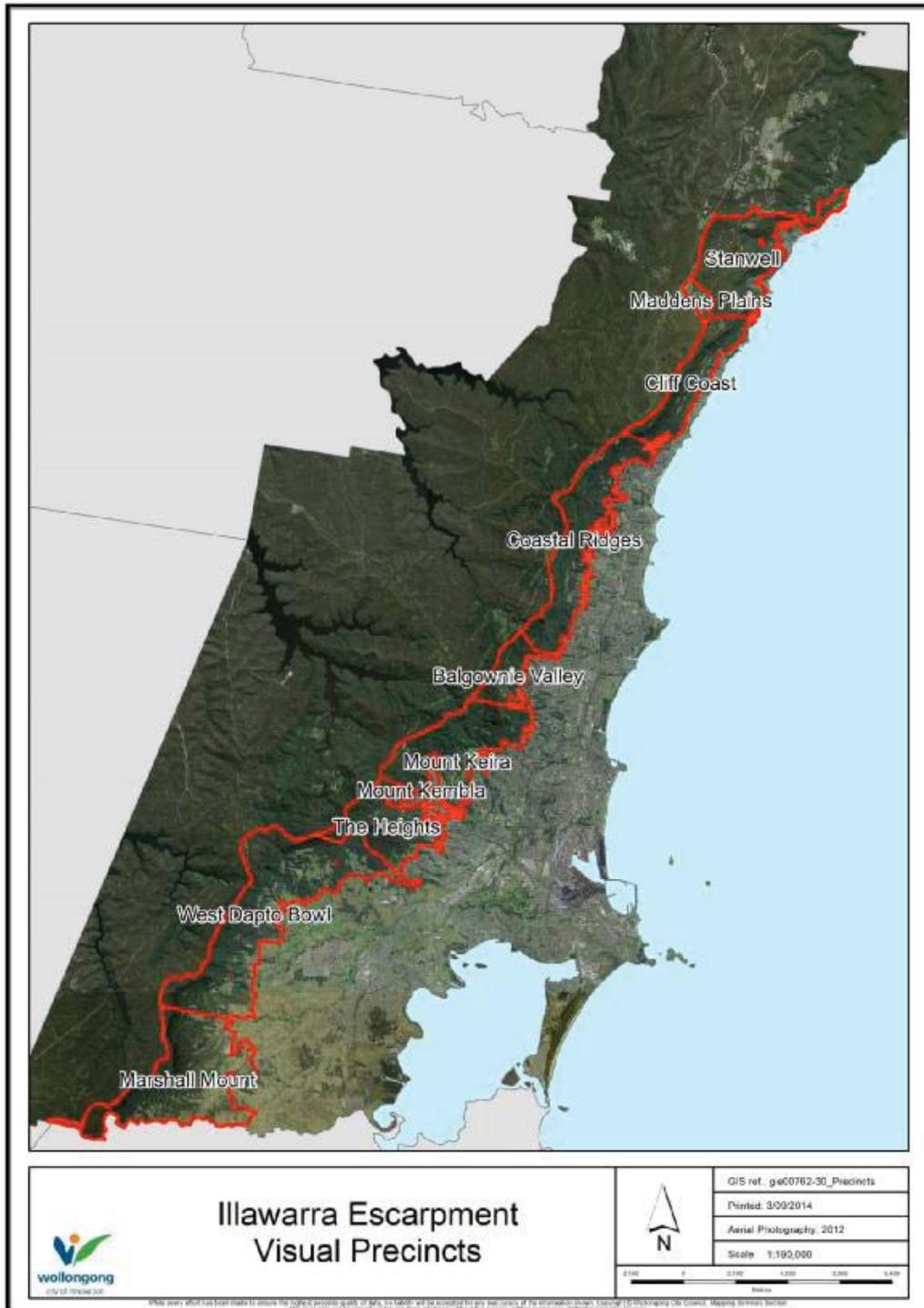


Figure 4.1. Map of visual precincts defined by the Visual Quality Assessment 2006.

Table 3. The visual value of ten precincts within the escarpment study area. Landform scarcity refers to whether the landform is unique (H), repetitive (M) or common (L). Vegetation significance refers to the aesthetic importance and integrity of the precinct and the built environment features measure the degree to which the built form adds or subtracts from these aesthetic values.

Precinct	Landform Scarcity	Vegetation Significance	Built Environment Features
Marshall Mount	H	H	M-H
West Dapto Bowl	M-H	H	L-M
The Heights	L	L	L
Mount Kembla	M-H	H	M-H
Mount Keira	H	H	H
Balgownie	H	H	M-L
Coastal Ridges	M	H	M
Cliff Coast	H	H	M-H
Stanwell	H	H	M-H
Maddens Plains	H	H	M-L

From this precinct based analysis it is evident that visual values vary amongst sub-sections of the escarpment. This must be kept in mind when assessing the relative impact of proposals on scenic value. These issues are discussed in more detail within the visual assessment report (DSB Landscape Architects, 2006).

Scenic Values to be Preserved or Enhanced

- Escarpment as a vegetated backdrop to Wollongong coastal plain;
- Escarpment ridges, spurs, valleys and creeks;
- Scenic rural interface between the vegetated escarpment and urban development; and
- Opportunity for dramatic lookouts over the coastal plain.

4.2.2 Aboriginal Heritage Value

The Aboriginal Heritage Study completed for Council in 2008 identified that the Illawarra Escarpment contains places of cultural heritage significance to the local Aboriginal community, as well as Aboriginal cultural heritage sites of all degrees of archaeological and cultural significance (Australian Museum Business Services, 2008). The study highlighted that due to the inaccessibility of many areas of the

escarpment, a large number of Aboriginal cultural heritage sites are likely to exist, but are not as yet recorded. The study also pointed to the fact that Aboriginal heritage extends beyond physical evidence of occupation.

Consistent with the Office of Environment and Heritage Aboriginal Heritage Guidelines, there are two types of Aboriginal significance: social significance and archaeological significance (Office of Environment and Heritage, 2011). Social significance refers to the importance of a site or feature to the local Aboriginal community, whereas archaeological significance refers to the importance of a site or object to the understanding of previous human behaviour.

The Aboriginal Heritage Study 2008 identified the Wodi Wodi track leading from the escarpment to Sandon Point in Bulli as being of particular cultural importance to local Aboriginals (Australian Museum Business Services, 2008). The lower section of this track is generally known as the Throsby track.

The archaeological significance of sites within the Illawarra Escarpment can only be determined by individual assessment. It should be noted, however, that the high levels of historical disturbance associated with forestry, agriculture and mining mean any remaining archaeological sites are likely to be significant.

Central to the management recommendations of the report is the need to include consultation with the local Aboriginal community in escarpment matters, from strategic planning through to on-ground works.

Aboriginal Heritage Values to be Preserved or Enhanced
<ul style="list-style-type: none"> • Sites of social significance; • Escarpment ridges, spurs, valleys and creeks; • Evidence of previous Aboriginal occupation; and • Local cultural knowledge and connection with the escarpment.

4.2.3 Non-Indigenous Heritage Value

The Heritage Study completed for Council in 2007 identified the escarpment’s high natural values and exceptional scenic qualities which provide a most distinctive sense of place and provides a unifying feature and symbol of the Illawarra region (Mayne-Wilson and Associates and Meredith Walker Heritage Futures, in association with Godden Mackay Logan Pty Ltd, 2007). Most importantly, the study recognises that the escarpment is a ‘cultural landscape’ in that it has been modified over time and acquired cultural significance for the community.

The study identified nine themes:

Theme	Evidence	Significance
1. Escarpment as a place to negotiate: contact, travel, roads and	Tracks, paths, roads, stone abutments, culverts, surveyors marks, rail lines, rail viaducts,	Major cultural resource for understanding and appreciating the escarpment, including

settlement	camp sites.	views from it.
2. A place to live and work	Sites of shacks, huts, miners' cottages, mine managers' houses, workers accommodation, roads to and from work, schools, halls, churches, cemeteries, memorials.	Provides evidence of changes in dwellings and the way in which people lived.
3. Production – Timber, agriculture, dairy and mining	Tracks, former mills, flying foxes, saw pits, marked trees, remains of cut trees, structures made from local timber; fields, dairies, milking sheds, plantings, fence lines, dams; collieries, infrastructure between mines and the coast, airshafts, powder magazines, core sample sheds, mine portals, mine offices and gardens, mine accommodation.	Tangible link with history of early settlement and utilisation of the escarpment as a resource. Mine sites are integral to understanding the patterns of urban settlement and the social fabric of many communities.
4. Exploration, science, leisure and tourism	Tourist roads, walking tracks, lookouts, tourist centres, kiosks, restaurants, tourist accommodation, creative works, places reserved for scenic and natural value.	Demonstrates the strong and enduring relationship between the escarpment's natural qualities and its popularity as a place to visit.
5. Escarpment as a scenic backdrop and inspiration	Lookouts and viewpoints where the escarpment is visible.	Provides evidence of the importance of the escarpment as an aesthetic feature of the Illawarra.
6. Conservation and environmentalism	Land acquired for conservation, land regenerated since the second half of the 20 th Century.	Evidence of the natural and scenic importance of the escarpment.
7. Development of Lower Slopes	Old buildings, roads, remnant trees, dams and infrastructure.	Evidence of previous land use and occupation of the lower slopes of the escarpment.
8. Utilities – Water and electricity	Water tanks, electricity stanchions	Evidence of the purposeful location of utilities to suit the urban development of

		Wollongong.
9. Defence	Tank traps	Tangible evidence of the concerns for land defence during WWII.

Non-Indigenous Heritage Values to be Preserved or Enhanced

- Sites of cultural significance;
- Artefacts representative of the history of landuse on the escarpment;
- Evidence of previous occupation of the escarpment; and
- Local historical knowledge and connection with the escarpment.

4.2.4 Recreational Value

The escarpment is highly attractive for a number of recreational uses; bushwalking, bird watching, mountain biking, hunting and trail bike riding amongst the most popular. With each of these activities there are benefits and potential impacts on the environment and risks to safety. Hunting and trail bike riding are restricted to private properties with appropriate licences and permission.

Despite the demand for access to the escarpment, a comprehensive approach to managing these interests across all tenures is yet to emerge. Although it is beyond the scope of this management plan to comprehensively address the issue of competing recreational demands across multiple tenures, a number of values are presented to guide their consideration in lieu of a more comprehensive plan.

National Parks and Wildlife Service manage recreational values within their reserve according to the National Parks and Wildlife Service Plan of Management for the Illawarra Escarpment State Conservation Area 1987. Walking track development is guided by the Draft Masterplan for Walking Tracks and Associated Facilities 2005 (Epacris Environmental Consultants, 2005). These plans outline a number of desired outcomes and management responses that could potentially guide the management of the escarpment more broadly if private landholders were supportive of their implementation.

There is community interest in an extensive Illawarra Escarpment Walking Track extending from Stanwell Park to Macquarie Pass and link with further trails to the south of Wollongong. Further support from all levels of government is required to realise an Illawarra Escarpment Walking Track. The Illawarra Region of Councils conducted preliminary work on identifying a route from Stanwell Park through to the Shoalhaven River in the early 1990s. Extensive private ownership of land along this route and a lack of investment have hindered the implementation of this long distance walk, but planning and development of walking tracks within NPWS managed estate continues. Council is supporting the NPWS implement their walking tracks through integration of ‘off park’ infrastructure supportive of their network such as the Grand Escarpment Walk.

Recreational Values to be Preserved or Enhanced

- Escarpment as a destination for ecologically sensitive recreation;
- Escarpment is accessible for a variety of mobility levels; and
- Escarpment as a place for solitude and reflection.

4.3 Economic Value

Current productive use of the escarpment includes coal mining, ecotourism development and agriculture. Economic investment in the escarpment landscape can be generated by some forms of development where there are special provisions for improvement of the cultural and environmental values of the site. Due to the special conservation significance of the Illawarra Escarpment, economic benefits must be complementary to positive environmental and cultural outcomes.

Although productive use of land is essential to drive investment in the active management of the Illawarra Escarpment, the environmental and cultural values (Sections 4.1–4.2) take precedence over its economic exploitation due to its significance. It is important that land use planning decisions protect the escarpment by not degrading its cultural and environmental values for economic gain.

Economic Values to be Preserved or Enhanced

- Areas capable of supporting local employment including tourism;
- Areas capable of supporting food production; and
- Residential development which enhances the environmental, scenic and cultural values of the escarpment.

5 Land Use Planning

One of the primary roles that Wollongong City Council fulfils in the management of the Illawarra Escarpment is its land use planning function. Council has responsibility for developing the Wollongong Local Environmental Plan as well as assessing planning proposals and development applications within its local government area. Although the primary land use planning analysis has been completed for Illawarra Escarpment land, Council is approached from time to time with planning proposals to modify what land use is permissible within an existing zone, or to modify the existing zoning to a new zone. The land use planning section of this strategy is intended to help guide the preparation of planning proposals within the Illawarra Escarpment.

The existing planning framework, including current strategic documents and Wollongong LEP zones present within the Illawarra Escarpment are addressed in Section 5.1. Sections 5.2–5.5 outline factors to be considered in the development of a planning proposal for Illawarra Escarpment Land. Section 5.2 provides Character Statements and Desired Future Outcomes for the primary escarpment zones. These character statements and desired future outcomes are supplementary to the Standard Instrument objectives for these zones and relate to the special nature of the Illawarra Escarpment. A range of planning mechanisms suitable for consideration in a planning proposal is presented in Section 5.3. The key constraints relevant for escarpment land are outlined in Section 5.4. Specific requirements of planning proposals are listed in Section 5.5.

Land use planning on the Illawarra Escarpment is focused on achieving the ongoing conservation and enhancement of the Illawarra Escarpment. The Illawarra Escarpment is not seen as an area appropriate for meeting demands for urban growth. Planning proposals on the escarpment need to focus on the conservation outcome proposed for the escarpment and demonstrate how changes will provide an overall improvement to the environmental and cultural values of the Illawarra Escarpment as outlined within this plan.

5.1 Planning Framework

The current zoning applying to escarpment land in Wollongong LEP 2009 is considered reflective of the escarpment attributes developed in the IESMP 2006. This is due to the work completed by the Illawarra Escarpment Land Use Review Strategy 2007 in applying the attribute mapping of IESMP 2006 to the Standard Instrument LEP zones. The Illawarra Escarpment Land Use Review Strategy 2007 along with public exhibition of the draft Wollongong LEP 2007, has informed the development of Wollongong LEP 2009. The Illawarra Escarpment is mapped in Wollongong LEP 2009 and is largely made up of environmental zones E1 – National Parks and Nature Reserves, E2 – Environmental Conservation, E3 – Environmental Management and E4 – Environmental Living (Table 4).

5.1.1 Strategic context

The IESMP 2015 has been developed in the context of the following strategic documents (specific actions are mentioned where possible):

- Illawarra Regional Strategy (NSW Department of Planning, 2007)– Wollongong City Council will incorporate the planning controls recommended in the Illawarra Strategic Management Plan into its local environmental plan. [Note: completed in 2010 with the notification of the Wollongong LEP 2009 – discussed below];
- Illawarra/South Coast Regional Action Plan (NSW Department of Premier & Cabinet, 2012) – Protect our local environment and community;
- Southern Rivers Catchment Action Plan 2013–23 (Southern Rivers CMA, 2013). Objective: Health and integrity of natural habitats supports people and the environment;
- Illawarra Natural Resource Management Action Plan 2010 (Southern Rivers CMA, 2010);
- Wollongong City Council Delivery Program 2012–17 (Wollongong City Council, 2014) 1.1.4.2 – Implement priority actions from the Illawarra Escarpment Strategic Management Plan;
- Illawarra Biodiversity Strategy 2011 (Wollongong City Council, 2011);
- Illawarra Regional Food Strategy 2013 (Wollongong City Council, 2013); and
- Riparian Corridor Management Study (DIPNR, 2004).

5.1.2 Local Planning Controls

The Wollongong Local Environment Plan 2009 is currently the relevant environmental planning instrument for the Illawarra Escarpment. Details of the relevant zones and permissible uses at the time of publication are summarised in Appendix E for easy reference. The most current version of the Wollongong Local Environmental Plan can be found at www.legislation.nsw.gov.au.

5.1.2.1 Current Zones within the Illawarra Escarpment

Table 4 summarises the area in hectares and the total proportion of the Illawarra Escarpment made up of the various Wollongong LEP 2009 zones at the time of the preparation of this document. It shows that the majority of the escarpment is made up of environmental zones.

Table 4. Area of Wollongong LEP 2009 zones within the escarpment plan area.

Zone	Name	Area ha	Proportion
E1	National Parks and Nature Reserves	2768	27%
E2	Environmental Conservation	3976	39%
E3	Environmental Management	1836	18%
E4	Environmental Living	244	2%
RE1	Public Recreation	52	1%
RE2	Private Recreation	80	1%
RU1	Primary Production	154	2%
RU2	Rural Landscape	638	6%
SP2	Infrastructure	346	4%

5.2 Desired Illawarra Escarpment Land Use

The following section provides further detail on the character and desired future outcome of E2, E3 and E4 land use zones within the escarpment. These are provided primarily to guide the future zoning of land, although the statements also provide guidance to the desired management of existing zones. These environmental zones are considered the most appropriate for future land use on the escarpment. Planning proposals within the escarpment should be utilising these zones in all but exceptional cases. The E1 National Parks and Nature Reserves zone is not included as it can only apply to lands managed by the NPWS.

The Character Statements and Desired Future Outcomes are provided to help guide the preparation of planning proposals for Illawarra Escarpment land. The Character Statements and Desired Future Outcomes provide a broad indication of the characteristics of the zone as well as the expectations for its management. The following descriptions should be used to guide the choice of land use zone and management activities proposed to occur over the subject escarpment land in a planning proposal.

The Core Escarpment, Biophysical Support for Core, Landscape Support for Core and Escarpment Interface attributes developed in IESMP 2006 underlie the Character Statements and Desired Future Outcomes (refer to Section 1.5 for definitions). However, Council has not depicted the attribute mapping of IESMP 2006 in this plan in acknowledgement that more detailed and current mapping would be generated prior to the consideration of any rezoning on the escarpment.

5.2.1 E2 – Environmental Conservation Character Statement

The principal objective of this zone is to protect, manage and restore areas of high ecological, scientific, cultural or aesthetic values. In the context of the Illawarra Escarpment, this means conserving Core Escarpment and Foothills land avoiding development that degrade these values. The Core Escarpment lands should be managed for conservation purposes as either freehold title (privately owned) or under some form of public reserve. The land that is currently freehold and which will remain so should be able to provide, where possible, a conservation buffer to the existing reserves such as the Illawarra Escarpment State Conservation Area within the escarpment and foothills. Cleared or degraded land which is of cultural or scenic value may also be included in this zone where the intention is for this land to be utilised for conservation of these values.

New dwelling houses are not permitted in this zone, although existing use rights may enable lawfully existing dwellings to be demolished and redeveloped, and additions and alterations to be made subject to the normal Development Application process.

Lands applicable to this zone are recognised as potentially having valuable community appeal for ecotourism, heritage and recreational type activities. Ecotourism is not currently a permissible use within Wollongong LEP 2009, however, some ecotourism and recreational type activities including the establishment of walking trails, informal picnicking and camping areas or heritage interpretation areas are considered potentially suitable for this zone. Ecotourism type activities would need to follow principles such as no native vegetation clearing, utilising existing infrastructure (eg. roads, water supply), nil or positive impact on biodiversity, and nil or negligible visual intrusion and adequate bush fire protection.

5.2.1.1 Desired Future Outcomes

- Land use which protects and enhances escarpment lands which have special conservation, cultural and historical, aesthetic or scenic qualities;
- Active management to enhance watercourses and their riparian buffer areas;
- Active management to conserve areas that contain high biodiversity values including land mapped by OEH as 'Primary' or 'Support for Primary' or are identified as Endangered Ecological Communities or poorly or inadequately conserved vegetation communities in the 2002 Bioregional Assessment of the Illawarra Escarpment and Coastal Plain (NSW National Parks and Wildlife Service, 2002c);
- Conservation of natural habitats for native plants and animals within the escarpment lands;
- Conservation of areas that comprise high visual or cultural amenity eg. cliff faces, ridges and spurs;
- Enhancement of environmental and/or ecological corridors; and
- Provision of opportunities for public appreciation of the escarpment environment and its cultural heritage where conservation is not compromised.

5.2.2 E3 – Environmental Management Character Statement

Land within an E3 Environmental Management Zone has significant escarpment attributes, although it is likely to be affected by disturbance from previous land use. It may be affected by weed infestation and the fragmentation of remnant vegetation. There is strong likelihood that this land contains sites of Aboriginal significance, particularly along riparian zones, ridge tops and spurs. It is considered that these lands provide an important 'buffer' to the integrity of the Core Escarpment lands and therefore need to be planned and managed to ensure that the 'buffer' status is maintained and enhanced, whilst at the same time provide for, where appropriate, residential development or productive use.

The E3 lands are characterised by high elevations, a mixture of cleared and vegetated areas and existing rural uses. These lands have generally been mapped in locations that are between high conservation value lands and lands outside the study area such as the West Dapto release areas or existing development.

The key defining characteristics of these lands are their environmental and visual significance. E3 Environmental Management lands allow for development including environmentally appropriate residential development, agricultural pursuits, local food production, ecotourism and recreation, but only as a secondary consideration to conservation (as previously articulated in the COI (Simpson, 1999)). New dwelling houses are permitted in the E3 Environmental Management zone, subject to complying with a range of controls including the Minimum Lot Size requirement.

5.2.2.1 Desired Future Outcomes

- Ecological enhancement of disturbed areas;

- Secure, long term financial mechanisms for ensuring ongoing management and enhancement of escarpment values;
- Vegetated (local native species) areas provide linkages between the coastal plain and the high conservation value lands of the escarpment;
- Vegetated (local native species) areas provide habitat to support Core Escarpment areas and adjoining conservation lands;
- Lot size increases and density decreases along the gradient from urban lands to conservation areas, whereby a rural residential type development occurs towards, but not within, the Core Escarpment areas;
- Tourism development that do not degrade the biodiversity, visual or cultural values of the land or increase the bush fire risk;
- Dwelling houses that leads to a neutral or beneficial effect on the biodiversity, visual and cultural values of the escarpment through appropriate siting of development and active enhancement of escarpment values;
- Residents contribute to the protection and enhancement of conservation areas, visual amenity and cultural values of adjoining lands;
- Tourism and recreation development allows enjoyment of the high conservation attributes and cultural values of the escarpment without reducing those values;
- Agricultural activities have a neutral or beneficial effect on the biodiversity, visual and cultural values of the land and do not degrade the high conservation values of adjoining lands; and
- Residents actively contribute to the management of pest and weed species, rehabilitation of native vegetation in previously cleared areas outside the APZ, and rehabilitation of riparian corridors.

5.2.3 E4 – Environmental Living Character Statement

There are some areas of existing cleared land that although in close proximity to Core Escarpment, are of sufficient size and have existing infrastructure to support some level of development to drive a better conservation outcome of the land. These areas are large enough and sufficiently cleared that detrimental impacts on escarpment values would not likely result from residential or other sympathetic development, including but not limited to; no loss of native vegetation for APZ implementation, no decrease in the visual amenity of the escarpment, the ability to manage on site effluent and the provision of sufficient access (without the need to remove native vegetation). Importantly, Council would need to be satisfied that the planning proposal involving the zoning of land to E4 would ensure the ongoing improvement of escarpment values overall and particularly on Core Escarpment land.

5.2.3.1 Desired Future Outcomes

- Ecological enhancement of disturbed areas;

- Secure, long term financial mechanisms for ensuring ongoing management and enhancement of escarpment values;
- Low density housing or tourism development that does not degrade the biodiversity, visual or cultural values of the land or increase the bush fire risk;
- Housing that leads to a neutral or beneficial effect on the biodiversity, visual and cultural values of the escarpment through appropriate siting of development and active enhancement of escarpment values;
- Residents contribute to the protection and enhancement of conservation areas, visual amenity and cultural values of adjoining escarpment lands;
- Tourism and recreation development allows enjoyment of the high conservation attributes and cultural values of the escarpment without reducing those values;
- Agricultural activities have a neutral or beneficial effect on the biodiversity, visual and cultural values of the land and do not degrade the high conservation values of adjoining lands; and
- Residents actively contribute to the management of pest and weed species, rehabilitation of native vegetation in previously cleared areas outside the APZ, and rehabilitation of riparian corridors.

5.3 Planning Mechanisms

A variety of planning mechanisms exist for ensuring improved outcomes for the Illawarra Escarpment result from any additional development. Which mechanisms are most appropriate will need to be negotiated with Council and relevant state government agencies on a case by case basis. Below are descriptions of some of the relevant planning mechanisms available to achieve improved environmental outcomes on the Illawarra Escarpment. For guidance on the preparation of a planning proposal, see section 5.5.

5.3.1 Planning Agreements (PA)

Where Council considers a planning proposal has appropriate merit and contributes to achieving the desired conservation outcomes of this plan, a Planning Agreement can be established with Council to ensure that the agreed approach is carried through to the development assessment phase. A Planning Agreement will contain the findings of studies associated with the proposal and commitments from the developer including any conservation agreements. Due to the high cost of preparing a Planning Agreement, it is anticipated that a planning proposal will make a commitment to preparing such an Agreement following a successful Gateway determination.

Section 93F of the Environmental Planning and Assessment Act 1979 (Division 7.5 of Planning Act 2013) defines the conditions for a Planning Agreement. *A planning agreement is an agreement between one or more public authorities and a person (the developer) under which the developer is required to dedicate land free of cost, pay money, carry out public works or provide any other material public benefit (or any combination of them) towards:*

..(d) the conservation or enhancement of the natural environment of the State.

5.3.2 Conservation Agreements

Where escarpment land remains in private ownership and an improved conservation outcome is desired, a BioBanking Agreement or similar mechanism may be the best way of ensuring that the land is actively managed into the future. A range of legal agreements to guarantee the future conservation of land are presented below.

5.3.2.1 BioBanking Agreement

BioBanking is a market-based offsetting program administered by the Office of Environment and Heritage. A BioBanking agreement provides a high level of permanent legal protection for conservation on a property. BioBanking credit arrangements are established with a dedicated funding plan designed around a site specific management plan. The agreement is registered on the property title and remains on the land with a change of ownership. A number of sites within the Wollongong LGA are in the process of establishing BioBanking Agreements. BioBanking is currently the preferred mechanism for the securing of conservation on escarpment land.

5.3.2.2 Conservation Agreement (CA)

A CA (administered by the Office of Environment and Heritage) provides a high level of permanent legal protection for conservation on a property. It is registered on the property title and remains on the land with a change of ownership.

Currently one CA exists in the Wollongong LGA in Farmborough Heights, to protect Illawarra Subtropical Rainforest and *Cynanchum elegans*.

5.3.2.3 Trust Agreement

A Trust Agreement is a legally binding agreement between a landowner and the Nature Conservation Trust. A Trust Agreement provides a high level of permanent legal protection for conservation on a property. It is registered on the property title and remains on the land with a change of ownership. Currently no Trust Agreements exist in the Wollongong Local Government Area.

5.3.2.4 Conservation Property Vegetation Plan (PVP)

A PVP is a legally binding agreement between the land owner and the Local Land Services Authority that describes how the native vegetation on the property is to be managed. A PVP runs with land for the duration of the plan, and can be registered on the land title. A PVP provides a moderate level of legal protection for conservation, but a high level of legal protection for conservation if the PVP is requested to be in perpetuity. Currently no PVPs have been entered into in the Wollongong LGA.

5.3.2.5 Wildlife Refuge

A wildlife refuge (administered by the Office of Environment and Heritage) provides a moderate level of permanent legal protection for conservation on a property and is registered on the property title.

Wildlife refuges may contain remnant native vegetation as well as habitat provided by wildlife corridors, windbreaks, woodlots or farm dams. Currently, no wildlife refuges exist in the Wollongong LGA.

5.3.2.6 Property Registration with the Office of Environment and Heritage (OEH)

A landowner registers their property with OEH, to be managed for conservation. This is not legally binding, and does not change the property's legal status. Two property registration schemes are available in New South Wales – Land for Wildlife and Conserve Wildlife. Land for Wildlife operates on a regional level. In Conserve Wildlife, landholders register their properties with OEH by purchasing a 'Conserve Wildlife' sign. Currently, no registered Land for Wildlife properties exist in the Wollongong LGA. Currently, a small number of registered Conserve Wildlife properties exist in the Wollongong LGA.

5.3.3 Heritage Management Plan

Planning proposals within the Illawarra Escarpment will require a preliminary assessment of any potential heritage values on the site. This assessment should be prepared by a qualified heritage consultant and consider the heritage values described in sections 4.2.2 and 4.2.3.

If the proposal impacts on the heritage values of the site, a heritage management plan may be required. Depending on the nature of the proposal, the detailed heritage management plan may be prepared following a successful Gateway determination.

It is expected that a heritage management plan will:

- Define the heritage values to be managed;
- Define any curtilage required around heritage objects and mitigation measures;
- Adopt an integrated approach toward management of cultural and natural heritage;
- Recognise heritage management in the overall planning and management of the site;
- Increase the understanding of heritage values on the site;
- Recognise the associations between the community and the escarpment; local Aboriginals, landowners, neighbours and visitors; and
- Contribute to the whole of government planning for escarpment cultural heritage conservation and management, including the working with the Office of Environment and Heritage.

5.3.4 Community Title

Community title is a legal agreement whereby the ownership of common land may be shared across a number of lots. In order to demonstrate the ongoing conservation and enhancement of escarpment land, a planning proposal may outline a community title agreement to apply to a future subdivision.

5.4 Constraints on Development

The Illawarra Escarpment contains large areas of land which are unsuitable for many forms of development due to steepness, land instability, conservation significance, bush fire risk, visual prominence and remoteness from services. These factors need to be considered in assessing the merits of

planning proposals within the Illawarra Escarpment. It is important to note that areas not constrained by one of the factors listed below are not necessarily automatically considered suitable for development.

5.4.1 Steepness

Due to the natural form of the escarpment, many areas have a slope exceeding 25 degrees. The steepness of the landform has historically been a major barrier to development and continues to affect large areas of the escarpment.

5.4.2 Land Stability

Evidence of landslip and other forms of land instability are common on the escarpment. Over 500 landslides have been recorded in the Wollongong University Landslide Inventory. Significant landslip events have occurred in the northern suburbs such as the Thirroul Primary School landslide of 1950. Various attempts have been made to better understand land stability risk to help guide land suitability assessments. However, Council generally requires site specific assessments of geotechnical risk in order to exclude areas of high landslip risk from development.

5.4.3 Conservation Significance

Vegetation on the escarpment may have value in terms of its biological significance as representative of rare or endangered species or communities, but also vegetation may be important for habitat or migration purposes for native fauna. Additionally, vegetation on the escarpment has conservation significance due to its Aboriginal cultural significance or scenic landscape value. For these reasons, remnant native vegetation is a major constraint on additional development of the escarpment.

Another important element for conservation identified in the Commission of Inquiry was riparian corridors. The IESMP 2006 encouraged the protection of watercourses for the purpose of wildlife movement, habitat, land stability and water quality. These areas also often correspond with areas of Aboriginal heritage significance.

5.4.4 Bush fire Risk

Approximately 97% of the escarpment plan area is declared bush fire prone, triggering consideration under the Rural Fires Act 1997. The potential bush fire risk of the escarpment was demonstrated in 1968 when the Illawarra Escarpment experienced a devastating bush fire event in which 31 homes were lost.

Development should be located in areas which do not require the clearing of native vegetation to establish Asset Protection Zones. Also, development should be located where there is sufficient access and egress for residents and emergency vehicles.

5.4.5 Visual Impact

The visual impact of development is an important constraint given the level of scenic value of the escarpment. A methodology for consideration of visual impact is outlined in the Wollongong DCP 2009 and in greater detail within the Visual Quality Assessment undertaken as part of the Illawarra Escarpment Land Use Review Strategy (DSB Landscape Architects, 2006).

5.4.6 Service Availability

Sites without access to town water, sewer or power can potentially impact on the environmental values of the escarpment through pollution or the need to bring in service to service the development. Careful consideration must be given to the balance of benefit versus impact of allowing development in the more remote areas of the escarpment.

5.5 Planning Proposal Requirements

For detailed guidance on the preparation of planning proposals, please refer to “A guide to preparing planning proposals” (Department of Planning and Infrastructure, 2012). The following requirements are provided to guide the preparation of planning proposals within the Illawarra Escarpment.

Although the complexity of proposals may vary, as a minimum, Council requires reports addressing the possible impacts of the proposal on:

1. The Visual Quality of the Illawarra Escarpment and its precincts;
2. Bush fire Hazard and associated vegetation management;
3. Heritage values of the site;
4. Geotechnical stability of the site; and
5. Biodiversity.

All studies will need to be integrated in order for Council to consider the proposal holistically. For example, the bush fire, geotechnical and heritage management requirements will need to be considered as part of the biodiversity and visual assessments of the proposal.

Further, the planning proposal should provide evidence of how the environmental and cultural values of the escarpment will be conserved and enhanced through the proposal.

The consideration of planning proposals by Council will focus on assessing:

1. The basic planning viability of the proposal;
2. the conservation benefit of the proposal; and
3. The visual benefit of the proposal.

In weighing the merits of a proposal, additional questions should be considered:

- Are conservation measures short or long term?
- Is any improvement likely to be maintained?
- Is there a possibility of a change of use subsequent to approval which is contrary to achieving the benefits of the proposal?

5.5.2 Conservation Benefit

Planning proposals should identify conservation measures that are lasting. Examples of lasting conservation measures include the dedication of land to the National Parks and Wildlife Service or a Biobanking Agreement ensuring ongoing funding of conservation works on escarpment land. A Vegetation Management Plan alone will in most cases not be sufficient to demonstrate a conservation benefit.

5.5.3 Environmental Envelope

The approach of planning escarpment land use based on the existing landscape attributes of the land that was developed in the IESMP 2006 was further refined by the Illawarra Escarpment Land Use Review Strategy 2007 (HLA-Envirosciences, 2007). The Illawarra Escarpment Land Use Review Strategy utilised an approach to land capacity assessment based around an environmental envelope (environmental footprint) over the land, which was determined by reference to environmental constraints such as; size (and length) of area currently cleared relative to slope, angle of viewline, ridgelines, cultural heritage items, visual analysis, potential supplementary planting, access (transport corridors), width of clearing (interruption to canopy), bush fire risk, riparian corridors, services (on site detention etc.), water cycle management and stability matters (HLA-Envirosciences, 2007).

This approach allowed an environmental envelope to be set. An indicative development form could be determined by the potential developer with reference to density, siting and design principles and a subdivision could be proposed. This approach encourages the siting of a development to achieve minimal visual impact, while reflecting the natural attributes of the escarpment and to be in harmony with its surroundings. This method reflects an approach where the landscape features determine subdivision capacity and where development is secondary to the improvement of escarpment values. The method involves a greater consideration of the preservation and enhancement of natural and cultural values than a standard constraints analysis methodology as may be applied in an urban release area context. The environmental envelope methodology should be applied as a foundation to planning proposals within the Illawarra Escarpment.

5.5.4 Assessment Criteria

In addition to the basic requirements of the Department of Planning and Environment, for a planning proposal within the Illawarra Escarpment area to be supported by Council for Gateway determination, it must satisfactorily address the following criteria:

	Site Analysis
1	Demonstrate the environmental envelope methodology (Section 5.5.3) has been applied to the site.
2	Where the site is adjacent to existing urban development, increase lot size and reduce density of development closer to the escarpment.
3	Riparian corridors are to be applied consistent with the recommendations contained within the Riparian Corridor Management Study (Department of Infrastructure Planning and Natural

	Resources, 2004). Office of Water guidelines for riparian corridors on waterfront land are not relevant due to the Illawarra Escarpment not being an urban release area.
4	The clearing of native vegetation on the escarpment is to be avoided. This includes; for the location of a dwelling site, provision of services, access, on-site effluent management, infrastructure or for the implementation of bush fire controls including Asset Protection Zones (APZs). Where minor native vegetation removal is required, it needs to be justified in terms of significant improved outcomes for the environmental and cultural values of the Illawarra Escarpment (Sections 4.1–4.2).
5	Retain the rural atmosphere of the escarpment through avoiding visible development and maintaining low development density. Where higher densities are required to achieve conservation and enhancement of the escarpment, dwellings need to be hidden and clustered to avoid degrading the visual quality of the escarpment.
6	Where possible, avoid creating additional lot boundaries through existing native vegetation or riparian areas.
	Conservation
7	Contributes to the improved management of escarpment lands through permanent, legally binding mechanisms (Section 5.3).
8	Conserve, improve and where possible extend existing vegetation on the site. This may include conservation and improvement of vegetation of relatively low biodiversity value in order to provide a buffer to nearby high biodiversity escarpment land such as that mapped as 'Primary' in the NPWS Bioregional Assessment of the Illawarra Escarpment and Coastal Plain 2002 (NSW National Parks and Wildlife Service, 2002c).
9	Conserve, improve and where possible extend existing vegetation to provide for increased connectivity and enhance existing vegetation corridors such as mapped in the Illawarra Biodiversity Strategy 2011.
10	Protect, maintain and enhance flora and fauna species and vegetation communities of the Illawarra Escarpment.
11	Describe how the escarpment values of the site will be improved in terms of specific and secure conservation initiatives and outcomes that will enhance the Illawarra Escarpment for the long term.
	Heritage
12	A report must be submitted to Council assessing Aboriginal and Non-Indigenous heritage values on the site due to the heritage significance of the Illawarra Escarpment (Section 5.3.3). A separate report may be required for consideration of Aboriginal and Non-Indigenous cultural heritage.
	Visual
13	A visual impact assessment must be prepared consistent with the methodology presented in the Visual Quality Analysis of the Illawarra Escarpment 2006 (DSB Landscape Architects, 2006).

14	Locate proposed development with full consideration of its visual context within a precinct. Proposals should conserve or enhance the scenic attributes of its precinct.
15	Promote a pattern of land use sympathetic to the valuable escarpment landscape, protecting ridges, spurs, valleys and creeks.
16	No residential or infrastructure development on visually significant or prominent ridgelines – ridgelines should be managed for conservation, visual and biodiversity outcomes. Vegetated ridges should separate suburbs.
17	Development opportunities should be considered where there is nil, or only a localised visual impact, not visible from the broader urban areas.
18	Allow for public access to views of exceptionally high scenic value or cultural significance.
	Bush fire
19	A bush fire assessment must be submitted consistent with the Planning for Bush Fire Protection 2006 (Rural Fire Service, 2006).
20	Bush fire assessments must consider the possible effects of the 10/50 Vegetation Clearing Code on vegetation.
	Geotechnical
21	A geotechnical assessment must be submitted due to the known geotechnical instability of the Illawarra Escarpment.
22	Where revegetation is required to improve the stability of high geotechnical risk areas, plant local native vegetation associated with the vegetation type present on the site.
2	Avoid the exposure of development to areas of instability or geotechnical risk.

5.6 Development Assessment

In addition to Planning Proposals, Council is required to assess Development Applications for new development in the Illawarra Escarpment, including new or replacement dwelling houses, tourist developments, agriculture and recreation facilities. Council also comments on Major Project Applications exhibited by the State for mining operations.

In the assessment of Development Applications, Council assesses the application against:

- The Wollongong LEP 2009 – including land use definition, zoning, lot size and clause 7.8 Illawarra Escarpment area conservation;
- The Wollongong DCP 2009 – various chapters including B6 Development in the Illawarra Escarpment;
- Any relevant State Environmental Planning Policy, state policy or guidelines; and
- The Illawarra Escarpment Strategic Management Plan 2015.

6 Implementation

The IESMP 2015 utilises a pressure state response model of managing the Illawarra Escarpment. This model identifies the pressures or key threatening processes on an asset be it natural, cultural or economic, then identifies the current state of these assets and from these two elements, a response is determined to mitigate or minimise the threats to the asset.

6.1 Pressure

Pressures on the escarpment include:

Activity/Process	Pressure
Mining	<ul style="list-style-type: none"> Disruption of underground water movement Pollution of air, land and water Clearing of vegetation for mine operations Subsidence Increased land instability
Pest Animals	<ul style="list-style-type: none"> Browsing of native vegetation Spread of weeds Competition with native herbivores Erosion
Weeds	<ul style="list-style-type: none"> Competition with native plants Disruption of fauna movement Increased fire hazard
Bush fire	<ul style="list-style-type: none"> Burn regimes may preference certain vegetation types Increased erosion after fire Vegetation clearing associated with hazard reduction
Land clearing/fragmentation	<ul style="list-style-type: none"> Reduction in biodiversity through clearing Increased fragmentation leading to increased edge effects such as weeds Increased need for further clearing or modification of vegetation for asset protection zone/infrastructure

	<p>maintenance</p> <p>Increased opportunities for spread of weeds</p>
Urban encroachment/increased residential development of the escarpment	<p>Increased prevalence of domestic animals in natural areas</p> <p>Dumping</p> <p>Unauthorised fires</p> <p>Pollution of waterways through herbicides, pesticides and fertilisers</p> <p>Weed dispersal through garden escapees</p> <p>Reduced infiltration of water due to hard surfaces</p>
High visual impact development	Reduction in scenic value of the escarpment
Agriculture	<p>Nitrification of watercourses from fertilisers</p> <p>Chemical and pesticide contamination</p> <p>Water extraction</p> <p>Weed dispersal from pasture</p> <p>Disruption of sensitive native vegetation through grazing</p> <p>Faecal contamination of watercourses from livestock</p>
Climate variability (weather extremes and seasonal variation)	<p>Increased risk of severe fire</p> <p>Increased stress on biodiversity</p>
Unauthorised access	<p>Nuisance to landowners</p> <p>Risks from unauthorised activities such as hunting and dirt bike riding</p> <p>Damage to property</p> <p>Erosion</p> <p>Damage and distress to livestock</p>

6.2 State

Monitoring of the state of the Illawarra Escarpment is a significant challenge given the extent of the area involved and the large level of private ownership within the escarpment. The state of the escarpment

must be measured using data which is either existing, or readily attained. The approach outlined below utilises currently available technology and methodologies to measure changes in the condition of the escarpment.

6.2.1 Current data

6.2.1.1 Mapping Layers

Several mapping layers were developed in association with the preparation of the IESMP 2006. Most significantly, the Bioregional Assessment conducted by the National Parks and Wildlife Service in 2002 generated a comprehensive vegetation map, as well as fauna modelling and a conservation assessment combining these two datasets. The 2002 Bioregional Assessment of the Illawarra Escarpment and Coastal Plain examined biodiversity values in three phases;

- Part I – vegetation study,
- Part II – fauna study, and
- Part III – conservation assessment.

Although the 2002 study is now more than a decade old, it continues to underpin Council’s consideration of biodiversity values on the escarpment. Council commissioned a validation study of the 2002 NPWS mapping in 2006. This study found a high level of agreement with the 2002 study. Although vegetation condition is in a constant state of change, the 2002 study continues to provide an accurate representation of biodiversity values on the escarpment. Additional mapping has been conducted by the Office of Environment and Heritage (OEH) in the north of the Wollongong local government area, and Council officers and consultants have contributed to updating the vegetation mapping over time. The most recent vegetation map update occurred in 2014.

The *Illawarra Biodiversity Strategy 2011* identified areas of High Conservation Value and Very High Conservation Value in the escarpment. This mapping was based on a regional level vegetation map generated as part of the South Coast Inventory of Vegetation Index (SCIVI) mapping project conducted by OEH in 2010. Although this mapping is of a coarser resolution than the 2002 Bioregional Assessment which focussed on the Wollongong Local Government Area, it contains vegetation community classifications which are consistent from Sydney down to the Victorian border.

In addition to these layers, Council has captured aerial photography over much of the escarpment in 2006, 2009, 2011 and 2012. Due to the focus of Council on managing the coastal plain and escarpment foothills, aerial photography has increasingly been restricted to these areas, omitting much of the western areas of the escarpment (largely under catchment protection).

Since 2006, Council has also acquired LiDAR Digital Elevation Models (DEMs) over much of Wollongong. LiDAR DEMs provide highly accurate representation of elevation. The newly acquired DEMs have been valuable in more accurately locating drainage lines and watercourses, key constraints for escarpment planning.

LiDAR also has the capacity to deliver information on vegetation structure. The State Government has developed a program of digital image capture for the Sydney Conurbation which is scheduled to deliver high resolution aerial photography to Council on an annual basis. The latest dataset was generated from flights undertaken in 2013. Future image capture is planned to integrate LiDAR data with capture leading to the potential for annual monitoring of vegetation structure over some areas of the escarpment.

6.2.1.2 Visual Quality Assessment

Results from the Visual Quality Analysis 2007 provide a benchmark of the visual quality of the ten precincts within the escarpment study area. Replication of aspects of this methodology will allow for monitoring of performance against this benchmark.

6.2.1.3 Heritage Register

The mapping of heritage is complex when the full range of values is considered. A mapping layer of heritage areas is necessarily a simplification, however, can be used as a tool for reviewing key sites or assets. Council is currently reviewing its heritage register. It is anticipated that additional heritage items will be added to the register as part of this review and subsequent work.

The Heritage Assessments conducted between 2003 and 2008 contain detailed records of heritage items and natural heritage values in the escarpment. These items are included in the current review of the heritage register and are anticipated to form a component of the ongoing monitoring of the state of heritage items on the escarpment.

6.2.1.4 Current Condition of Vegetation

Vegetation condition has been mapped as part of the Bioregional Assessment conducted in 2001. Further work on mapping vegetation condition occurred in 2006. This work found condition measures to be generally consistent with the previous mapping. Due to the generally slow nature of condition change within vegetation communities, and due to the high cost of accurately measuring this change, it is not feasible to comprehensively audit vegetation condition across the study area. A more targeted approach is required.

- Monitor sites where improvement of vegetation condition was part of the consent for rezoning or development.
- Monitor sites of particularly high conservation value where a threat may be present (e.g. deer).
- Consider long term monitoring sites as indicators of general condition change associated with climate and key threatening processes.

6.2.1.5 Visual Amenity

The visual quality of the ten precincts within the study area was assessed as part of the Illawarra Escarpment Land Use Review in 2007. This work forms a baseline for periodic review of visual amenity.

- Periodic (every 5 years) reassessment of visual amenity consistent with the Visual Quality Analysis conducted in 2007.

- Documentation of views from key locations to monitor change.

6.3 Response

Although Council's direct influence on the state of the escarpment is limited by its small level of land ownership in the escarpment and existing legislative powers, a range of actions have been identified to be implemented in response to the pressures on the escarpment in Section 6.3.4.

6.3.1 Environmental Management

6.3.1.1 Biodiversity Conservation

Council's efforts at addressing weed management and biodiversity enhancement are primarily focussed on the coastal plain. Private biodiversity conservation efforts are likely to emerge from planning proposals on the escarpment given the clear planning direction in this regard.

6.3.1.2 Weed Management

The proliferation of weeds in disturbed areas of the escarpment is a major management challenge for the Illawarra Escarpment. The occupier of escarpment land (whether public or private) has responsibilities for addressing weed management and the failure to address weed issues can result in penalties under the Noxious Weeds Act 1993.

The national approach to weed management is outlined in the seven guiding principles of the National Weed Strategy:

- Weed management is an essential and integral part of the sustainable management of natural resource for the benefit of the economy, the environment, human health and amenity;
- Combating weed problems is a shared responsibility that requires all parties to have a clear understanding of their roles;
- Good science underpins the effective development, monitoring and review of weed management strategies;
- Prioritisation of and investment in weed management must be informed by a risk management approach;
- Prevention and early intervention are the most cost-effective techniques for managing weeds;
- Weed management requires coordination among all levels of government in partnership with industry, land and water managers and the community, regardless of tenure; and
- Building capacity across government, industry, land and water managers and the community is fundamental to effective weed management (National Resource Management Ministerial Council, 2007).

The Noxious Weeds Act 1993 classifies weeds as:

Class 1	State Prohibited Weeds	Plants that pose a potentially serious threat to primary production or the environment and are not present in the State or are present only to a limited extent.
Class 2	Regionally Prohibited Weeds	Plants that pose a potentially serious threat to primary production or the environment of a region to which the order applies and are not present in the region or are present only to a limited extent.
Class 3	Regionally Controlled Weeds	Plants that pose a serious threat to primary production or the environment of an area to which the order applies, are not widely distributed in the area and are likely to spread in the area or to another area.
Class 4	Locally Controlled Weeds	Plants that pose a threat to primary production, the environment or human health, are widely distributed in an area to which the order applies and are likely to spread in the area or to another area.
Class 5	Restricted Plants	Plants that are likely, by their sale or the sale of their seeds or movement within the State or an area of the State, to spread in the State or outside the State.

The primary means for Council to address weed management at a landscape scale is through the Illawarra District Noxious Weeds Authority (IDNWA). Wollongong, Shellharbour and Kiama Councils established the IDNWA in 1992, as a means of better managing noxious weeds across the three local government areas. The IDNWA is responsible for undertaking weed control measures on Council and some Crown land as well as working with private landholders to manage weeds across the landscape. The IDNWA has the authority to direct landowners to undertake weed control when necessary.

The IDNWA prioritises the eradication or control of new and emerging high risk weed species (Class 1 and 2 species as defined by the Noxious Weeds Act 1993). Class 3 noxious weeds are given the second highest priority. Control of class 3 noxious weeds aims to contain the spread and reduce the area and impact of these weeds. Widespread and common weeds (class 4) are prioritised according to where control benefits will be greatest and where the IDNWA has the resources to adequately address the weed issue.

Council conducts weed management as part of its management of natural areas, utilising contractors and supporting Bushcare volunteers. However, these natural area sites are generally located outside of the IESMP 2015 area.

Table 5. The Strategic Weed Management Plan for the Illawarra Escarpment 2006 identified strategies and actions for addressing weed management on the escarpment. These actions have been refined by the Illawarra District Noxious Weeds Authority and are listed below.

Strategy	Actions
Manage weeds through land use planning	Establish when weed management can be considered 'exempt development'.

	<p>Integrate weed management into environmental management plans and land management agreements.</p> <p>Identify opportunities to initiate appropriate land use change as part of the management of weeds.</p>
Prevent the establishment of new weed species –	<p>Undertake a risk assessment process to identify and manage high risk species and pathways</p> <p>Raise public understanding of high risk weed species</p> <p>Implement eradication and enforcement programs</p> <p>Establish hygiene protocols to reduce the spread of weeds</p> <p>Develop and implement early detection capacity</p> <p>Reduce disturbance and regenerate disturbed sites</p> <p>Integrate pest control efforts with weed management</p> <p>Restrict the sale of high risk weed species</p>
Eradicate or contain new and emerging high risk weed species	<p>Undertake surveillance programs for high risk species and implement eradication or containment programs</p> <p>Increase the capacity of landholders to recognise and report new weed incursions</p> <p>Develop rapid response plans</p> <p>Monitor the effectiveness of eradication or containment programs</p>
Effectively manage widespread weeds	<p>Identify where widespread weeds are having greatest impact and prioritise management efforts based on impacts</p> <p>Implement weed control at priority locations – management programs to be prioritised to give greatest benefit</p> <p>Support cooperative programs that use integrated management across all tenures</p> <p>Undertake best practice weed control</p> <p>Monitor effectiveness of management programs and adapt as required</p>

6.3.1.3 Pest Management

Following from an action in the IESMP 2006, Council developed a Vertebrate Pest Animal Management Policy in 2010. A range of pest species are considered under this policy. Deer have been identified as a significant pest species on escarpment land. In 2011, Council supported the establishment of the Northern Illawarra Wild Deer Management Program (NIWDMP), and in 2013, a draft Regional Deer Management Strategy. The NIWDMP is coordinated by the South East Local Land Services and involves the landscape wide control of deer utilising professional pest controllers. The program is scheduled to operate until 2015, with maintenance control involving landowner and reduced contractor management to occur on an ongoing basis. The program has been successful at reducing deer populations and impacts within the program target areas.

Deer are considered a game species in NSW. This means there are currently no mechanisms for obliging landowners to control deer. Despite this legal status, wild deer have been shown to be causing a negative impact on escarpment vegetation through herbivory, notably in the Illawarra Subtropical Rainforest vegetation community. Deer have also been causing economic and social impacts in Wollongong, such as damage to property and safety risk to motorists. These impacts contributed to the assessment of deer as a Priority Pest Species for Wollongong requiring a Pest Management Plan to be developed and implemented.

The Pest Management Plan for Deer is updated annually and the actions reviewed by the Council's Pest Animal Advisory Group consisting of representatives of NSW Police, RSPCA, Animal Welfare League, National Parks, Local Land Services and Water NSW.

Other vertebrate pest species affecting biodiversity in the Illawarra Escarpment include foxes and feral cats. Council is yet to produce pest management plans for these species although it is anticipated that these plans will be developed over coming years. Council continues to support the Animal Welfare League to implement feral cat management in the Wollongong LGA.

6.3.1.4 Riparian Corridor Management

In 2004 Council endorsed the Riparian Corridor Management Strategy produced by the (then) Department of Infrastructure Planning and Natural Resources. This plan underlies Council's consideration of riparian management and buffer widths. Additional to this strategy, Local Land Services provides incentives for rural landholders to improve riparian condition.

6.3.1.5 Bush fire Management

The potential for extensive property loss along the escarpment is high as all parts of the urban - bushland interface are vulnerable to bush fire attack. Major fires have occurred within the Wollongong LGA in September 1939, October 1968, November 1980, January 1994, December 1997 and December 2001. These fires have all coincided with extended drought periods and extreme fire weather and burnt extensive areas both below and on top of the escarpment.

The NSW *Rural Fires Act 1997* places strict obligations for bush fire management on all land owners in NSW. Prevention of the ignition or spread of wildfire is the responsibility of all public and private land owners, regardless of the size of their property holding.

Strategic and emergency bush fire management in the Wollongong local government area is co-ordinated by the Wollongong Bush Fire Management Committee. This committee comprises representatives from the major land management agencies within Wollongong, such as Wollongong City Council, NSW National Parks and Wildlife Service, Water NSW, Integral Energy, Rail Corp, several private landholders, NSW Rural Fire Service and NSW Fire Brigades, Illawarra District Police Rescue as well as volunteer representatives from the Nature Conservation Council and the Rural Fire Service.

The current Wollongong Bush fire Risk Management Plan (BRMP) was developed by the Committee in September August 2008, in accordance with the NSW *Rural Fires Act 1997*. The aim of the BFRMP is to provide for the co-ordinated prevention and mitigation of wildfire for the protection of life, property and the environment. The BFRMP is a strategic document which:

- identifies the level of bush fire risk across the Wollongong LGA;
- identifies strategies which will be implemented to manage the bush fire risks identified; and
- identifies the land managers responsible for implementing the BFRMP.
- Reducing the risk for bush fire events generally involves actions such as:
 - preparing the interface to withstand the expected fire intensities through establishment and maintenance of Asset Protection Zones and upgrading building construction;
 - preventing or reducing the risk of fires reaching the interface through broad area fuel management, improved fire detection and systems; and
 - minimising the impact of fire on life, property and the environment through broad area fuel management, improved resident and fire fighter response and resident evacuation procedures.

6.3.1.5.1 Bush Fire Hazard Reduction Works

In August 2003 the NSW Rural Fire Service introduced a streamlined process for the approval of hazard reduction works undertaken within Asset Protection Zones (APZs) and Strategic Fire Advantage Zones (SFAZs).

A range of environmental laws exist to regulate hazard reduction. Previously, carrying out hazard reduction works required the consideration of up to 22 pieces of legislation and approvals from several different authorities. The current Environmental Assessment Code for Hazard Reduction considers the effects clearing and burning can have on threatened species, soil, water, native and riparian vegetation, Aboriginal and Non-Indigenous Cultural Heritage and locally significant sites. The code also considers the effects of smoke pollution. Applications for hazard reduction by private landholders are assessed by staff from the Rural Fire Service. Successful applicants are issued with a Hazard Reduction Certificate which is valid for 12 months. The Certificate describes the nature of the approved works and applies conditions which must be complied with during the completion of the works.

Strategic Fire Advantage Zones (SFAZs) include land that is mapped or described as such in the Wollongong Bush Fire Risk Management Plan or land within 500m of an APZ. The purposes of SFAZs are to:

- provide fuel reduced areas which enable the protection of assets by fire fighters when APZs are not in place;
- complement APZs where these do not provide adequate protection; and
- provide strategically located fuel reduced areas to reduce the vulnerability of assets which are susceptible to fire.

The types of works which can be approved under the Environmental Assessment Code within SFAZs include:

- (a) mechanical work for the maintenance of existing fire breaks. (This does not cover the removal of native vegetation, including regrowth vegetation older than 10 years);
- (b) prescribed burning.

Computer modelling has identified an APZ varying between 20m and 70m for the 282km of the interface. Site specific assessment of the interface is required to identify APZ requirements (eg. dimensions of the APZ and adoption of ancillary measures).

The modelled APZ is divided into broad manageable segments based on similar risk. There are a total of 45 segments with each being given a priority ranking to guide land managers and relevant authorities in the order in which detailed site assessment and APZ implementation should occur. These segments have been selected to contain areas of similar:

- Potential fire intensity resulting from a fire under extreme fire weather conditions averaged over the segment;
- proximity to historic fire paths or historical fire damage;
- length of downhill vegetated slopes from development;
- whether downslope or upslope occur adjacent to the development and the nature of the vegetation on these slopes;
- potential for impact by converging fire,
- accessibility and egress;
- adequacy of existing APZ;
- number of buildings and potential occupants;
- localities and characteristics that enable survey, consultation and implementation works and to occur at a similar time; and

- time since last fire in adjoining bushland.

In areas of existing urban development, education and awareness are critical issues in ensuring an effective APZ is implemented and in managing the threat of Bush Fire. Education and awareness of the risks and appropriate responses will be required to ensure landowners are aware of the risk of living in an urban/bushland interface, are aware of the options available to them in adopting the various mitigative responses to the threat of fire such as the removal of hazards around the asset, use of sprinkler systems, ensuring sufficient water supply and pressure, use of radiant heat barriers, providing an inner protection area and are making sure residents are aware of appropriate response procedures and evacuation routes.

The management of Asset Protection Zones has the potential to undermine the biodiversity and visual values of the Illawarra Escarpment. APZs need to occur in adequately sized existing cleared areas that are not targeted for biodiversity enhancement. The location of APZs within existing cleared areas is discussed in more detail in Section 5 of this plan.

6.3.1.5.2 10/50 Vegetation Clearing Code

In August 2014, the Rural Fires Amendment (Vegetation Clearing) Bill 2014 was enacted to provide for the clearing of trees within 10 metres of a dwelling and underlying vegetation (other than trees), such as shrubs, within 50 metres of a dwelling if their property is within the designated 10/50 vegetation clearing entitlement area. Briefly, the application of the 10/50 Vegetation Clearing Code of Practice specifies a number of restrictions and limitations. It is the responsibility of the landowner to understand these as part of the self-assessment process including:

- Provisions to manage soil erosion and landslip risks;
- Protection of riparian buffer zones;
- Protection of Aboriginal and other cultural heritage;
- Protection of vegetation where a legal obligation exists to preserve that vegetation by an agreement made under several different Acts such as the National Parks and Wildlife Act 1974, Threatened Species Conservation Act 1995 and the Native Vegetation Act 2003; and
- A requirement for an assessment and approval under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 for a Matter of National Environmental Significance.

The code is applicable to all properties within the Illawarra Escarpment as defined by Wollongong LEP 2009. While the code does not establish an obligation to remove vegetation, there is a significant risk that the scenic and ecological values of the escarpment could be diminished by its implementation. The code is currently under review by the NSW Government.

6.3.2 Cultural Management

Council has limited capacity to directly influence cultural values towards the Illawarra Escarpment. The primary means by which Council can influence these values is through facilitation of community planning and education. Council's role in regulating development influences the degree to which existing cultural values are preserved or enhanced.

6.3.2.1 Scenic Management

The primary mechanism for Council's management of scenic values on the escarpment is through its land use planning and development control functions. Council considers visual impacts on the escarpment as a component of the assessment of planning proposals and development applications.

The high value of the escarpment as a visual backdrop ensures that proposals are required to minimise or avoid visual impacts on the escarpment. The Wollongong DCP 2009 Chapter B6 Development in the Illawarra Escarpment contains details on how this is achieved at the development control level.

Monitoring and review of visual quality is discussed in Section 5.4 of this plan.

6.3.2.2 Aboriginal Heritage

Aboriginal heritage on the escarpment is primarily managed through the development control function of Council. The Office of Environment and Heritage regulates the management of Aboriginal heritage and maintains a register of information about Aboriginal objects and places of significance. Council administers the Aboriginal Reference Group which provides advice to Council on planning matters related to the Aboriginal community.

6.3.2.3 Non-Indigenous Heritage Management

The Illawarra Escarpment Heritage Assessment 2007 provided recommendations on improved management of heritage in the escarpment. Many of the recommendations related to improvements Council could make to its management which would enhance the preservation of cultural heritage.

- Integrate cultural heritage in the consideration of escarpment planning matters, production of interpretive material and monitoring of escarpment condition;
- Improve record keeping of heritage items and related materials;
- Fund community research into the escarpment's cultural and natural heritage;
- Support community involvement in escarpment research;
- Create interpretive materials and experiences to encourage understanding of escarpment values; and
- Improve collaboration with government agencies as well as the University of Wollongong and community groups.

The recommendations are being considered in the Heritage Review which is currently underway in consultation with the Heritage Advisory Committee.

6.3.2.4 Recreational Uses

The Illawarra Escarpment is an attractive environment for a number of recreational uses including bushwalking, mountain biking, trail bike riding and hunting. Many attempts have been made to improve the recreational opportunities on the escarpment through the development of a connected network of

trails and lookouts. Due to the cost of construction, the complexity of managing multiple ownership and the physical constraints of the land, progress on these plans has been gradual.

6.3.2.4.1 Bushwalking

The primary agency responsible for planning access to the escarpment is the National Parks and Wildlife Service. Council is working with the NPWS to ensure appropriate linkages are provided with walks within the Illawarra Escarpment State Conservation Area (IESCA). Destination Wollongong plays an important role in coordination and promotion of the Illawarra Escarpment and associated attractions. Council has the potential to help NPWS and Destination Wollongong implement their plans for improved access and appreciation of the escarpment through facilitating a multi-agency working group and through building appropriate links to the IESCA.

In order to improve the experience of the escarpment for residents, visitors and landowners, further investment in a formalised network of trails and access points is desirable. Council is in a position to facilitate the implementation of current plans through consultation with stakeholders and through the provision of facilities where appropriate. The fundamental assumption underlying the desire for improved escarpment access is that it will lead to a greater appreciation of the natural and cultural heritage of the Illawarra Escarpment, enhance the value the community places on its conservation and reduce the negative impacts of informal access. All proposals should address these aims.

6.3.2.4.2 Mountain Biking

No formal routes for mountain biking currently exist within the escarpment although some fire trails within the Illawarra Escarpment State Conservation Area can be legally accessed by mountain bikes. Due to the strong potential for environmental damage and conflict between mountain bike users and walkers, it is imperative that a planned approach to facilitating mountain biking be implemented in areas where the two uses coincide.

6.3.2.4.3 Trail Bikes

The use of trail bikes on the escarpment is not consistent with the conservation objectives of this plan due to the impacts of trail bikes on plants, soil and amenity of the escarpment. Public trail bike access to the Illawarra Escarpment is generally prohibited.

In some cases, private land owners may give permission to riders to access their land. Council is not aware of the extent of private agreements for trail bike access. Council is aware of private land owners struggling with the impacts of trail bike riders illegally riding on their land.

The negative impacts of trail bike riding can be minimised through the use of custom designed facilities such as the Mount Kembla Dirt Bike Complex. The Wollongong Motorcycle Club operates the Mount Kembla Dirt Bike Complex in Mount Kembla. Unlicensed riders can legally ride in the escarpment within this complex. To ride on public roads riders must have a licence and have a registered bike. Riders must be over 18 years of age to apply for a licence.

6.3.3 Economic Management

Economic development of the escarpment is managed through assessment of planning proposals and development applications. Wollongong Council's Economic Development Strategy 2013–2023 considers the Illawarra Escarpment as a natural asset and tourist attraction.

6.3.4 Illawarra Escarpment Action Plan

This action plan has been developed in order to assist Council to progress the objectives of the plan utilising available resources. The IESMP 2015 is considered a Supporting Document to Council's Integrated Planning and Reporting Framework. It is anticipated that the Action Plan will be utilised to guide Council actions over the next five years and then be subject to review along with a future update to the IESMP. Actions have been developed in three key themes:

- Community Capacity;
- Planning; and
- Governance.

6.3.4.1 Theme 1 – Community Capacity (C)

This theme presents actions and strategies related to improving the level of understanding and appreciation of the values of the Illawarra Escarpment. It is also recognised that actions relevant to this theme may emerge from landholder or general community proposals presented to Council over time.

Community Capacity Objectives

- C1 – Increase understanding of escarpment values and management challenges.
- C2 – Increase appreciation of the escarpment.
- C3 – Develop skills and knowledge relevant to the ongoing management of the escarpment.

6.3.4.2 Theme 2 – Planning (P)

This theme presents actions and strategies related to utilising the capacity of Council to influence land use planning outcomes on the escarpment.

Planning Objectives

- P1 – Improve Illawarra Escarpment land use planning.
- P2 – Conserve Core Escarpment areas.

6.3.4.3 Theme 3 – Governance (G)

This theme presents actions and strategies related to Council taking a leadership role in preserving and enhancing the values of the Illawarra Escarpment. It includes actions related to improving the evidence base for Council decisions on escarpment matters.

Governance Objectives

- G1 – Provide leadership on escarpment matters.
- G2 – Develop the evidence base to help guide policy development and decision making.

Table 6. Definition of terms used in the Action Plan tables.

Theme	Broad description of the relevant focus area.
Objective	What is the strategy trying to achieve?
Strategy	Broad description of the work area.
Action	Specific activity related to implementing the strategy.
Priority	Determined by an assessment of effort relative to impact. 1 = Low Effort/High Impact 2 = High Effort/High Impact 3 = Low Effort/Low Impact 4 = High Effort/Low Impact
Status	Current: Council is implementing this action. Previous: Work has occurred on this action, but is not currently occurring. Planned: Scheduled to occur in the future Not Scheduled: Not yet included in scheduling.
Council Role	Leader: Council taking lead role in developing and implementing the action. Owner/Manager: Council owns or manages assets relevant to achieving the action. Regulator: Council has a regulatory role related to the action. Information Provider: Council has a function in distributing information relevant to the action. Advocate: Council has a function in advocating to other levels of government or the community on the action. Initiator/Facilitator: Council assists by bringing stakeholders together to

	<p>achieve the action.</p> <p>Service Provider: Council implements works to directly achieve the action.</p> <p>Partner: Council contributes funding or in kind support for the implementation of an action.</p>
Timeframe	<p>Ongoing: To be delivered on an annual basis as part of Council business.</p> <p>Short Term: To be commenced within 3 years, subject to available resources.</p> <p>Long Term: Commencing later than 3 years, subject to available resources.</p>

Community Capacity (C)

OBJECTIVE C1 Increase Understanding of Escarpment Values and Management Challenges

Strategy	#	Action	Priority	Timeframe	Council Role
C1.1 Improve Understanding of Escarpment Values	1.1.1	Conduct mapping exercise with land owners to depict areas of natural or cultural significance.	2	Short Term	Initiator/Facilitator
	1.1.2	Conduct mapping exercise with community members to depict areas of natural or cultural significance.	2	Short Term	Initiator/Facilitator
	1.1.3	Consult with recreational clubs on current uses of the escarpment.	2	Short Term	Initiator/Facilitator
C1.2 Support and Promote Research into the Illawarra Escarpment	1.2.1	Identify opportunities for attracting funding for research of escarpment values.	3	Long Term	Initiator/Facilitator
	1.2.2	Support University students and staff in implementing research related to the Illawarra Escarpment.	3	Short Term	Initiator/Facilitator
C1.3 Improve Understanding of Escarpment Land Management Challenges	1.3.1	Survey land owners to establish key land management challenges on the escarpment	3	Short Term	Initiator/Facilitator
	1.3.2	Research approaches to addressing similar challenges in other localities	3	Short Term	Leader
	1.3.3	Map land management issues.	2	Short Term	Leader

OBJECTIVE C2 Increase Appreciation of the Escarpment

Strategy	#	Action	Priority	Timeframe	Council Role
C2.1 Promote the value of the Illawarra Escarpment	2.1.1	Collate and publicise information on escarpment attractions	1	Short Term	Information Provider
	2.1.2	Support events promoting Illawarra Escarpment values	2	Long Term	Initiator/Facilitator
	2.1.3	Promote the Illawarra Escarpment to key potential users	1	Short Term	Information Provider
C2.2 Facilitate land management initiatives and stewardship	2.2.1	Support land managers implementing effective land management approaches	2	Long Term	Initiator/Facilitator
	2.2.2	Promote innovative approaches amongst escarpment land managers	2	Long Term	Information Provider
	2.2.3	Facilitate networks to implement local solutions to land management issues	2	Long Term	Initiator/Facilitator
	2.2.4	Investigate partnership opportunities with Landcare, small farms network or similar.		Long Term	Initiator/Facilitator
C2.3 Increase landholder understanding of Council and government policies related to escarpment land use	2.3.1	Provide workshops addressing key policies affecting landowners.	3	Long Term	Initiator/Facilitator

OBJECTIVE C3 Develop Skills and Knowledge Relevant to the Ongoing Management of the Escarpment

Strategy		#	Action	Priority	Timeframe	Council Role
C3.1 Education/Stewardship	Community	3.1.1	Develop resources on escarpment history and cultural significance.	3	Short Term	Initiator/Facilitator
		3.1.2	Promote the establishment of Bushcare sites on suitable escarpment land.	3	Long Term	Initiator/Facilitator
		3.1.3	Promote training courses in land management, conservation and invasive species management.	2	Long Term	Information Provider

Planning (P)

OBJECTIVE P1 Improve Illawarra Escarpment Land Use Planning

Strategy	#	Action	Priority	Timeframe	Council Role
P1.1 Better Understand Land Use in the Escarpment	1.1.1	Investigate current land use activities occurring within the escarpment.	2	Short Term	Initiator/Facilitator
	1.1.2	Identify opportunities for planning changes to improve escarpment outcomes.	2	Long Term	Initiator/Facilitator
P1.2 Improve the Process for Consideration of Planning Proposals	1.2.1	Provide resources to encourage planning proposals to address escarpment values.	1	Short Term	Information Provider
	1.2.2	Provide support to strategic planners in the consideration of planning proposals in the escarpment.	1	Short Term	Information Provider
	1.2.4	Support the Escarpment Planning Reference Group to provide feedback on planning proposals.	1	Short Term	Initiator/Facilitator
P1.3 Integrate West Dapto and Escarpment Planning	1.3.1	Ensure escarpment values are considered in the neighbourhood planning of West Dapto.	1	Short Term	Leader

P1.4 Consideration of Development Applications in the escarpment.	Improve the of	1.4.1	Revise Development Control Plan Chapters relevant to escarpment development.	1	Long Term	Leader
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OBJECTIVE P2 Conserve Core Escarpment Areas

Strategy	#	Action	Priority	Timeframe	Council Role
P2.1 Extend Illawarra Escarpment State Conservation Area	2.1.1	Create a priority map of land most suitable for inclusion in the Illawarra Escarpment State Conservation Area.	2	Short Term	Initiator/Facilitator
	2.1.2	Work with NPWS and OEH to facilitate landowner dedication of suitable escarpment land to NPWS, guided by the identification of priority areas within BioMap.	3	Long Term	Initiator/Facilitator
	2.2.1	Assist in establishing a multi-agency working party to progress the implementation of the NPWS Draft Masterplan for Walking Tracks and Associated Facilities.	2	Short Term	Initiator/Facilitator
P2.2 Support the development of an Illawarra Escarpment Walking Track.	2.2.2	Lobby for state government support for an Illawarra Escarpment Walking Track	1	Short Term	Initiator/Facilitator

Governance (G)

OBJECTIVE G1 Provide Leadership on Escarpment Matters

Strategy	#	Action	Priority	Timeframe	Council Role
G1.1 Ensure Escarpment Matters are Considered in the Development of Plans and Strategies	1.1.1	Contribute to the development of local and regional plans	1	Short Term	Initiator/Facilitator
G.1.2 Monitor the implementation of the Illawarra Escarpment Strategic Management Plan 2015	1.1.2	Council, in consultation with the Escarpment Planning Reference Group will review the implementation of IESMP 2015.	1	Short Term	Leader

OBJECTIVE G2 Develop the Evidence Base to Help Guide Policy Development and Decision Making.

Strategy	#	Action	Priority	Timeframe	Council Role
G2.1 Monitor escarpment condition	2.1.1	Review current data sources for assessing escarpment condition.	3	Short Term	Leader
	2.1.2	Identify potential long term vegetation monitoring plots.	3	Short Term	Leader
	2.1.3	Establish long term vegetation monitoring plots	3	Long Term	Initiator/Facilitator
	2.1.4	Refine and apply the visual assessment methodology to track visual quality.	2	Short Term	Leader

G2.2 Review environmental outcomes from previous planning decisions 2.2.1 Review the outcome of escarpment sites developed following the approval Wollongong LEP 2009. 2 Long Term Leader

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Appendix A – Current Status of Mines within the Study Area

At March 2014:

Mine Site	Status
Maddens Plains – Emplacement Area	Use ceased
Coalcliff – Illawarra Coal and Coke	Rehabilitated site
Excelsior No. 2 – Thirroul	Inactive – requires rehabilitation
Old Bulli – Bulli	Rehabilitated – rezoned – future road
Russel Vale Colliery – Bellambi	Active
Corrimal Colliery – Tarrawanna	Rehabilitated site – privately owned land DA approved 2009 for a dwelling house, balance of land transferred to NPWS.
Kemira – Mount Keira	Rehabilitated
Dendrobium Colliery – Mount Kembla	Active
Wongawilli Colliery – Wongawilli	Active
Avon (Huntley) – West Dapto	Rehabilitated site.
Northcliff – Appin Road	Closed – Rehabilitation to be progressed in coming years.
Port Kembla No. 2 – Farmborough Heights	Rehabilitated site

Appendix B – Commission of Inquiry Recommendations

The following table summarises the Commission of Inquiry recommendations and provides a brief update on the status of recommendations. For the original wording, please refer to the Commission of Inquiry document.

No.	Commission of Inquiry Recommendation	Status
1	<p>A “Wollongong Land Use Constraints Study” be undertaken:</p> <ul style="list-style-type: none"> a) Eight individual catchment management plans b) A bio-regional assessment of the flora and fauna c) A native vegetation management plan pursuant of NVC Act 1997 d) Riparian and Green Corridor Plan e) Update of Land Stability Maps f) Mapping of past and present mining areas, waste dump areas and associated drainage features g) Water quality monitoring of the upper catchment of Lake Illawarra h) Bush Fire hazard management strategy 	<ul style="list-style-type: none"> a) Catchment Management Plan produced by LLS. b) Completed 2002 c) Not completed due to the repeal of NVC Act 1997 d) RCMS completed 2004 e) Completed f) Heritage study of mine sites completed. No detail on drainage. g) Not undertaken h) Superseded by Bush Fire Risk Management Plan 2008
2	Above studies should be complementary and undertaken simultaneously	Timing of studies was subject to available resources.
3	The land use constraints study should be coordinated by DUAP	<p>Attributes Mapping completed 2004</p> <p>WCC coordinated IELURS 2007</p>
4	An Illawarra Escarpment Management Plan should be prepared by Council in consultation with relevant government agencies and the community.	Completed 2006

5	<p>Council must consider the COI and associated findings in determining development or rezoning applications. The following principles should apply:</p> <ul style="list-style-type: none"> a) No further residential development west of existing approved development on Dam Rd, Morrison Ave and Buttenshaw Dr between Wombarra and Austinmer, and between Bulli and Mount Pleasant. b) Any proposal to intensify approved development on land with stability problems should be rejected. c) A moratorium on development in the area zoned 7b between Scarborough and Austinmer, including the site of Middle Heights Estate Trust, should be imposed until a comprehensive geotechnical and drainage assessment of the area is completed and suitable development areas that would not adversely impact on developments upslope and downslope, particularly the integrity of the railway embankment are identified. d) The principle of decreasing permissible development as proximity to core escarpment land increases should be applied e) A management committee be established, chaired and serviced by DUAP to prepare an environmental management plan for all State government owned lands and review development or work proposed on public land in the escarpment. f) A joint Council (Shellharbour and Wollongong City Councils) study for Calderwood Valley should be carried out prior to determination of applications for rural residential development in the area. g) Council's compensatory excavation policy be discontinued. Minimum set back of 40m from the top of bank should apply to all developments in the escarpment. h) A conservation assessment and rehabilitation plan should be prepared in consultation with NPWS to accompany a rezoning application if dedication of land to the public is involved. 	<ul style="list-style-type: none"> a) Complete b) Risk based approach adopted. Geotechnical risk is one factor considered in land capability assessment. c) Some development has occurred in this area in accordance with LEP 1990. LEP 2009 has zoned this land E2. d) This principle has been adopted by Council. e) Minister for Planning did not support this recommendation in 2006. f) Subject to subsequent rezoning studies. g) Not adopted by Council. h) NPWS negotiates condition and management outcomes on a case by case basis.
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6	<p>Core Escarpment should include:</p> <ul style="list-style-type: none"> a) Areas of high visual, scenic and landscape quality; b) Areas of known or potential land instability; c) Areas of high conservation value; d) Existing native vegetation with ecosystem value; e) Generally undisturbed riparian areas to at least 40m from the top of the creek bank; and f) Land offering opportunity for tourism, recreation and scientific research. 	<p>The criteria were adopted by the IESMP 2006 in determining the Escarpment Attribute Mapping.</p>
7	<p>Specific sites to be zoned 7a</p> <ul style="list-style-type: none"> a) The proposed subdivision site at Bendeena Gardens b) The area northeast of Princes Highway, Maddens Plains c) The western site adjacent to the railway line at Coalcliff d) All undeveloped land west of Dam Road, Morrison Avenue and Buttenshaw Drive between Wombarra and Austinmer. e) The western part of the area below Bulli Pass at Thirroul f) Site west of Joanne Street, Woonona Heights g) Area west of Brissendon Close, Tarrawanna, south east of the State Recreation Area. h) Two site adjacent to Mount Ousley Road i) Site east of the Girl Guides Camp, Mount Keira. j) Site east of Harry Graham Drive, Mount Kembla. k) Site adjacent to the Moss Vale/Unanderra railway line <p>Sites to be zoned 7a following cessation of mining and site rehabilitation</p> <ul style="list-style-type: none"> a) Bellambi Colliery site, located between Woonona and Russel Vale b) Kemira Colliery site 	<ul style="list-style-type: none"> a) Completed (E2) b) Completed (E2) c) Still zoned RU1 d) To some extent complete: E3 or E2 e) Completed (E2) f) To some extent complete: E3 or E2 g) Completed (E2) h) To some extent complete: E3 or E2 i) To some extent complete: E4 or E2 j) Not Completed: Zoned E3 k) Completed (E2)

	<p>c) Mount Kembla Colliery site located at the northeastern arm of the upper catchment of Brandy and Water Creek.</p>	<p>a) To some extent complete: E3 or E2</p> <p>b) Completed (E2)</p> <p>c) To some extent complete: RU1,E3 or E2</p>
8	<p>Illawarra Escarpment Regional Park be established pursuant of NP&W Act 1974 as a long term goal. The park should include all lands recommended to be zoned 7a from this report and associated subsequent studies.</p>	Not Completed
9	<p>Land transferred to public ownership should be transferred to the Minister for the Environment until such time as a regional park can be declared under the NP&W Act 1974.</p>	Not Completed
10	<p>Non-core escarpment land should be zoned 7b</p> <p>a) Site south of intersection of the Freeway and Princes Highway</p> <p>b) Area south of Koloona Ave</p> <p>c) The Western Suburbs Leagues Club site except on the knoll just south of O'Briens Road and the ridge just north of Cordeaux Road in the eastern portion of the site where 1 (non-urban) is appropriate.</p> <p>d) The valley of Brandy and Water Creek.</p> <p>e) The area between Mt Kembla and Farmborough Heights.</p> <p>f) Land east of the site adjacent to the Moss Vale/Unanderra railway line.</p>	<p>a) Completed (E3)</p> <p>b) To some extent complete: E4 or E2</p> <p>c) Redgum Ridge Development</p> <p>d) Completed</p> <p>e) Subject to Farmborough Heights to Mt Kembla Concept Plan</p> <p>f) Subject to Farmborough Heights to Mt Kembla Concept Plan</p>
11	<p>A moratorium on application of FTP and RRP should be imposed pending the outcomes of further studies recommended in this COI.</p>	Completed
12	<p>During the moratorium, development control can be processed in accordance with LEP 1990 and the recommendations of this COI.</p>	Completed
13	<p>The sub-region between Mount Ousley Road and Calderwood Valley should be assigned priority in the Wollongong Land Use Constraints Study.</p>	Completed 2007

	<p>a) The sub-region should be examined to identify areas suitable for fair trading with a minimum exchange ratio of 8ha per additional entitlement.</p> <p>b) An environmental study to identify areas that are suitable for rural residential development with regard to the principles outlined in this COI. This study should form the basis for the preparation of a new draft LEP for these areas.</p>	
14	The above studies should be complimentary and carried out simultaneously.	Completed 2007
15	Adjacent landowners, government agencies and neighbourhood committees should be advised when a fair trade proposal is submitted to Council for initial assessment.	Fair Trade Policy not re-enacted.
16	A Bush Fire consultative committee be established and chaired by RFS with community, volunteer and Council representatives.	Superseded by Bush Fire Committee established by RFS Act 1998.
17	The state government should accept a share of the financial responsibility for acquisition and maintenance of the recommended "regional park".	No state government funding has been provided for acquisition of core escarpment land.
18	WCC request exclusion from Schedule 1 or the Native Conservation Act 1997.	The Native Conservation Act 1997 was repealed and replaced with the Native Vegetation Act 2003.
19	State Rail to monitor the Scarborough drainage tunnel to determine its effectiveness for protecting residents.	Not known.
20	Council to reassess the appropriateness of 2a zoning in Clifton School Parade, Clifton	Zoned R2 in LEP 2009
21	Council review the need for 2a, 2a1 and 7c zonings	Zonings rationalised under LEP 2009 to R2 and E4.
22	Council and government agencies to promote voluntary conservation agreements and property agreements to protect escarpment land.	Not implemented

Appendix C – Status of Management Actions Identified in the Illawarra Escarpment Strategic Management Plan 2006 for Investigation and Planning

Escarpment Plan Key Action	Plan/Strategy	Responsibility	Status
Biodiversity Action Plans	Illawarra Biodiversity Strategy	WCC, SCC, KMC, LLS, OEH	Completed 2011. Implementation of actions ongoing.
Weed Action Plans	Illawarra Escarpment Weed Strategic Management Plan	WCC, Illawarra District Noxious Weeds Authority, LLS	Completed 2006. Implementation of actions ongoing.
Riparian Corridor Management Plans	Wollongong Riparian Corridor Study	WCC	Completed 2006. Implementation of actions ongoing.
	Draft Riparian DCP	WCC, DEP	Completed 2008
	Wollongong DCP 2009 – Ch. E23 Riparian Land Management	WCC	Completed 2009
Erosion Control Plan		WCC, DEP	Not Undertaken – considered on a catchment basis through Floodplain Risk Management Plans and Issues based projects
Ecotourism Strategy		WCC, DEP, Destination Wollongong	Not Undertaken – no provision for ecotourism in the Wollongong LEP 2009.
Pest and Feral Abatement Plans	Vertebrate Pest Animal Management Policy Pest Management Plan: – Deer	WCC, NPWS, LLS, SCA, RSPCA, Animal Welfare League, NSW Police.	Completed 2010. Implementation of actions ongoing.

	– Rabbits – Indian Myna Birds			
Heritage Management Plans	Illawarra Escarpment Heritage Assessment Part I	WCC, NPWS		Completed 2005
	Illawarra Escarpment Heritage Assessment Part II	WCC, NPWS		Completed 2007
	Indigenous Heritage Assessment	WCC, NPWS		Completed 2008
Voluntary Conservation Agreement Program		WCC, DEP, OEH		Not undertaken – conservation agreements administered by State Government Authorities.
Bush Fire Precinct Plans	Wollongong Bush Fire APZ Study	WCC, RFS		Study complete. Asset Protection Zones Implemented. Maintenance ongoing.
Agricultural Sustainability Study		Department of Agriculture		Not Undertaken
Facility Maintenance and Upgrade Strategy	Asset Management Plans	WCC		Underway

Appendix D – Status of Management Actions Identified in the Illawarra Escarpment Strategic Management Plan 2006 for on-ground work

Escarpment Plan Key Action	On-ground Work	Responsibility	Status
Biodiversity Enhancement	Re-vegetation and rehabilitation works	WCC, LLS	Occurring outside of escarpment area
Weed Management	Re-vegetation and rehabilitation works APZ management - FiReady Illawarra Noxious Weeds Authority works	WCC, Illawarra Noxious Weeds Authority, LLS,RFS, Private Landowners	Underway
Riparian Corridor Rehabilitation	Re-vegetation and rehabilitation works	WCC, LLS	Occurring outside of escarpment area
Erosion Control	Re-vegetation, rehabilitation and engineering works	WCC	Project based
Ecotourism		WCC, Destination Wollongong	Not Proceeded With
Feral Animal Control	Pest control works: Northern Illawarra Wild Deer Management Program	LLS, WCC	Underway
Heritage Management	Site specific management	WCC, OEH	Project based
Bush Fire Management	Asset Protection Zone management - FiReady	WCC, RFS	FiReady Program established.
Facility Maintenance and Upgrade	Asset Management System implementation	WCC	Underway

Appendix E – Zones within the Illawarra Escarpment*

*The following table of zones is provided for easy reference and is accurate at September 2014. For the most up to date information consult <http://www.legislation.nsw.gov.au/> and browse 'EPs in force,' look for Wollongong.

Zone	Name	Objectives	Permitted without consent	Permitted with consent	Prohibited
E1	National Parks and Nature Reserves	<ul style="list-style-type: none"> To enable the management and appropriate use of land that is reserved under the National Parks and Wildlife Act 1974 or that is acquired under Part 11 of that Act. To enable uses authorised under the National Parks and Wildlife Act 1974. To identify land that is to be reserved under the National Parks and Wildlife Act 1974 and to protect the environmental significance of that land. 	Uses authorised under the National Parks and Wildlife Act 1974	Nil	Any development not specified in column 3 or 4.
E2	Environmental	<ul style="list-style-type: none"> To protect, manage and 	Nil	Environmental facilities;	Business premises; Hotel

Zone	Name	Objectives	Permitted without consent	Permitted with consent	Prohibited
	Conservation	<p>restore areas of high ecological, scientific, cultural or aesthetic values.</p> <ul style="list-style-type: none"> • To prevent development that could destroy, damage or otherwise have an adverse effect on those values. • To retain and enhance the visual and scenic qualities of the Illawarra Escarpment. • To maintain the quality of the water supply for Sydney and the Illawarra by protecting land forming part of the Sydney drinking water catchment (within the meaning of State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011) to enable the management 		Environment protection works; Extensive agriculture; Recreation areas	or motel accommodation; Industries; Multi dwelling housing; Recreation facilities (major); Residential flat buildings; Restricted premises; Retail premises; Seniors housing; Service stations; Warehouse or distribution centres; Any development not specified in column 3 or 4.

Zone	Name	Objectives	Permitted without consent	Permitted with consent	Prohibited
		and appropriate use of the land by the Sydney Catchment Authority.			
E3	Environmental Management	<ul style="list-style-type: none"> To protect, manage and restore areas with special ecological, scientific, cultural or aesthetic values. To provide for a limited range of development that does not have an adverse effect on those values. 	Home occupations	Animal boarding or training establishments; Bed and breakfast accommodation; Building identification signs; Business identification signs; Community facilities; Dwelling houses; Environmental facilities; Environmental protection works; Extensive agriculture; Farm buildings; Farm stay accommodation; Forestry; Home-based child care; Recreation areas; Roads; Secondary dwellings	Industries; Multi dwelling housing; Residential flat buildings; Retail premises; Seniors housing; Service stations; Warehouse or distribution centres; Any development not specified in column 3 or 4.
E4	Environmental Living	<ul style="list-style-type: none"> To provide for low-impact residential development in areas with special ecological, scientific or 	Building identification signs; Home occupations	Bed and breakfast accommodation; Business identification signs; Community facilities; Dwelling houses; Environmental	Industries; Service stations; Warehouse or distribution centres; Any development not specified in

Zone	Name	Objectives	Permitted without consent	Permitted with consent	Prohibited
		<p>aesthetic values.</p> <ul style="list-style-type: none"> To ensure that residential development does not have an adverse effect on those values. 		<p>facilities; Environmental protection works; Home-based child care; Recreation areas; Roads; Secondary dwellings</p>	<p>column 3 or 4.</p>
RU1	Primary Production	<ul style="list-style-type: none"> To encourage sustainable primary industry production by maintaining and enhancing the natural resource base. To encourage diversity in primary industry enterprises and systems appropriate for the area. To minimise the fragmentation and alienation of resource lands. To minimise conflict between land uses within this zone and land uses within adjoining zones. 	<p>Building identification signs; Extensive agriculture; Home occupations</p>	<p>Agricultural produce industries; Agriculture; Animal boarding or training establishments; Business identification signs; Dwelling houses; Environmental protection works; Extractive industries; Farm buildings; Forestry; Intensive livestock agriculture; Intensive plant agriculture; Open cut mining; Roads; Roadside stalls</p>	<p>Any development not specified in column 3 or 4.</p>
RU2	Rural Landscape	<ul style="list-style-type: none"> To encourage sustainable primary industry 	<p>Extensive agriculture; Home</p>	<p>Agricultural produce industries;</p>	<p>Any development not specified in</p>

Zone	Name	Objectives	Permitted without consent	Permitted with consent	Prohibited
		<p>production by maintaining and enhancing the natural resource base.</p> <ul style="list-style-type: none"> • To maintain the rural landscape character of the land. • To provide for a range of compatible land uses, including extensive agriculture. • To encourage the retention, management or restoration of native vegetation. 	<p>occupations; Roadside stalls</p>	<p>Agriculture; Animal boarding or training establishments; Bed and breakfast accommodation; Child care centres; Community facilities; Crematoria; Dwelling houses; Environmental facilities; Environmental protection works; Farm buildings; Farm stay accommodation; Forestry; Helipads; Home-based child care; Hospitals; Places of public worship; Recreation areas; Recreation facilities (outdoor); Respite day care centres; Roads; Rural supplies; Secondary dwellings; Signage; Veterinary hospitals</p>	<p>column 3 or 4.</p>

- clause 4.1 Minimum subdivision lot size

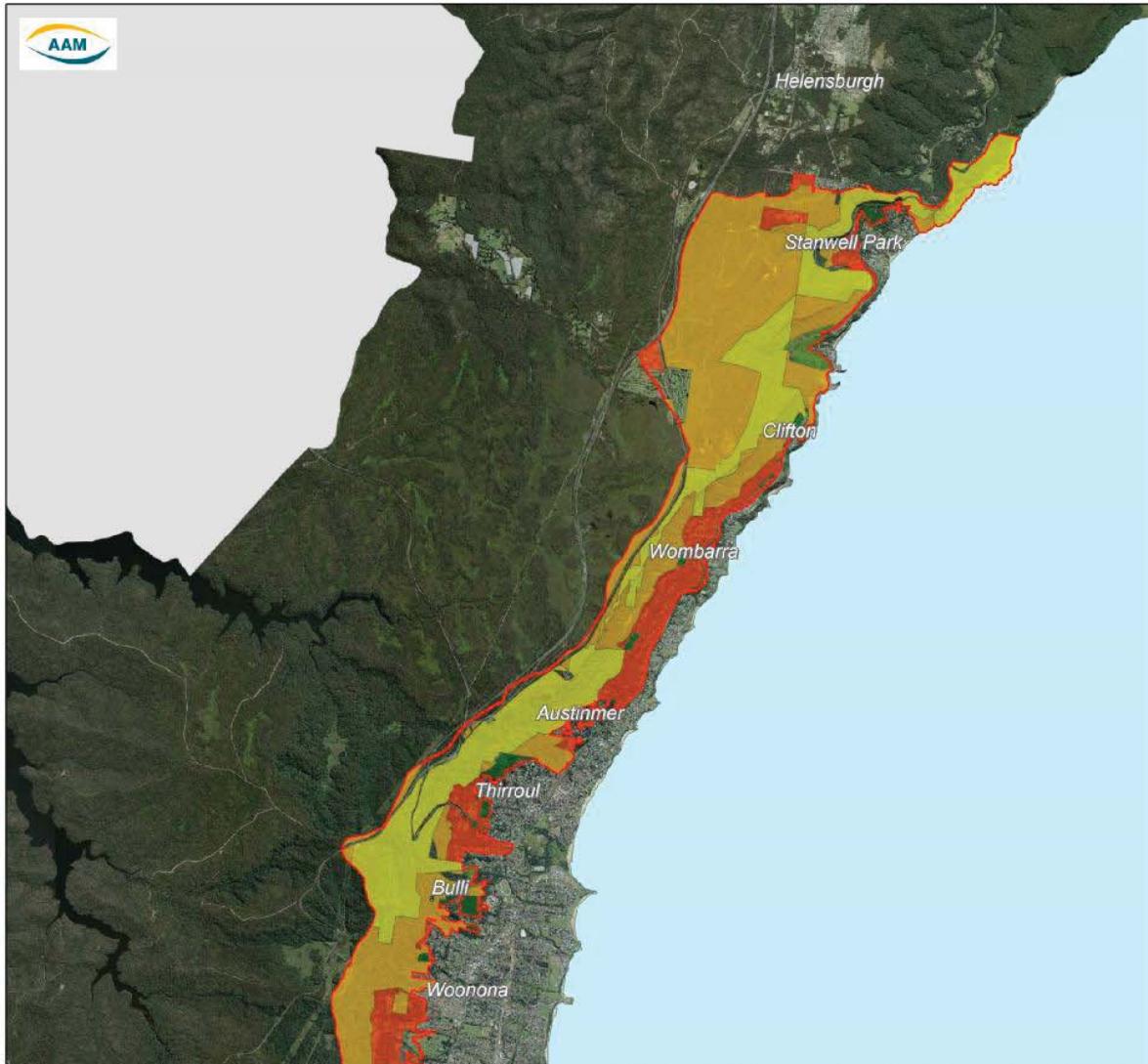
- clause 4.2A Erection of dwelling house on land in certain rural and environmental protection zones
- clause 5.10 - Heritage conservation & listing of Illawarra Escarpment as a landscape item, plus specific heritage items
- clause 7.8 Illawarra Escarpment area conservation, plus map
- Wollongong DCP 2009 Chapter B6 Development in the Illawarra Escarpment

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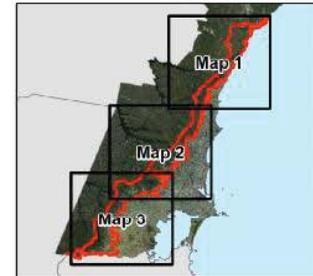
Appendix F – Wollongong LEP 2009 Zones within the Illawarra Escarpment*

*The following maps of zones within the Illawarra Escarpment are provided for easy reference and are accurate at September 2014. For the most up to date information consult <http://www.legislation.nsw.gov.au/> and browse 'EPs in force,' look for Wollongong.

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Illawarra Escarpment Wollongong LEP 2009 Map 1



Legend

Wollongong LEP 2009

-  E1
-  E2
-  E3
-  E4
-  RU1
-  RU2
-  RU4



GIS ref.: gie00762-32_Attributes

Printed: 22/10/2014

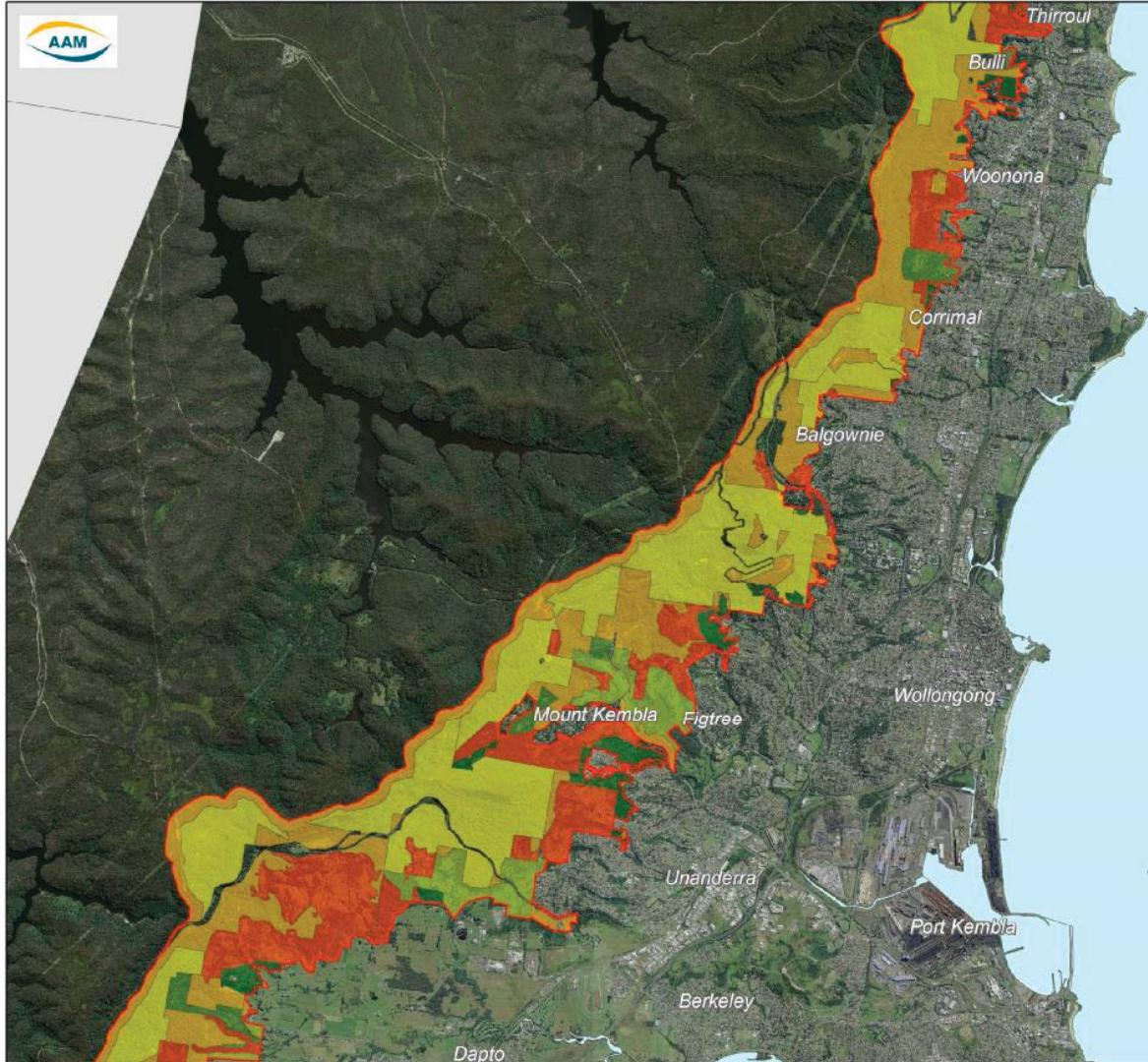
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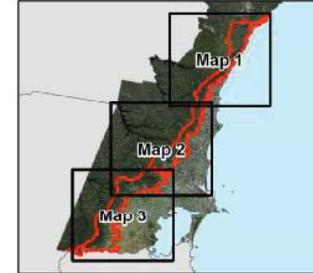


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Illawarra Escarpment Wollongong LEP 2009 Map 2



Legend

Wollongong LEP 2009

-  E1
-  E2
-  E3
-  E4
-  RU1
-  RU2
-  RU4



GIS ref.: gie00762-32_Attributes

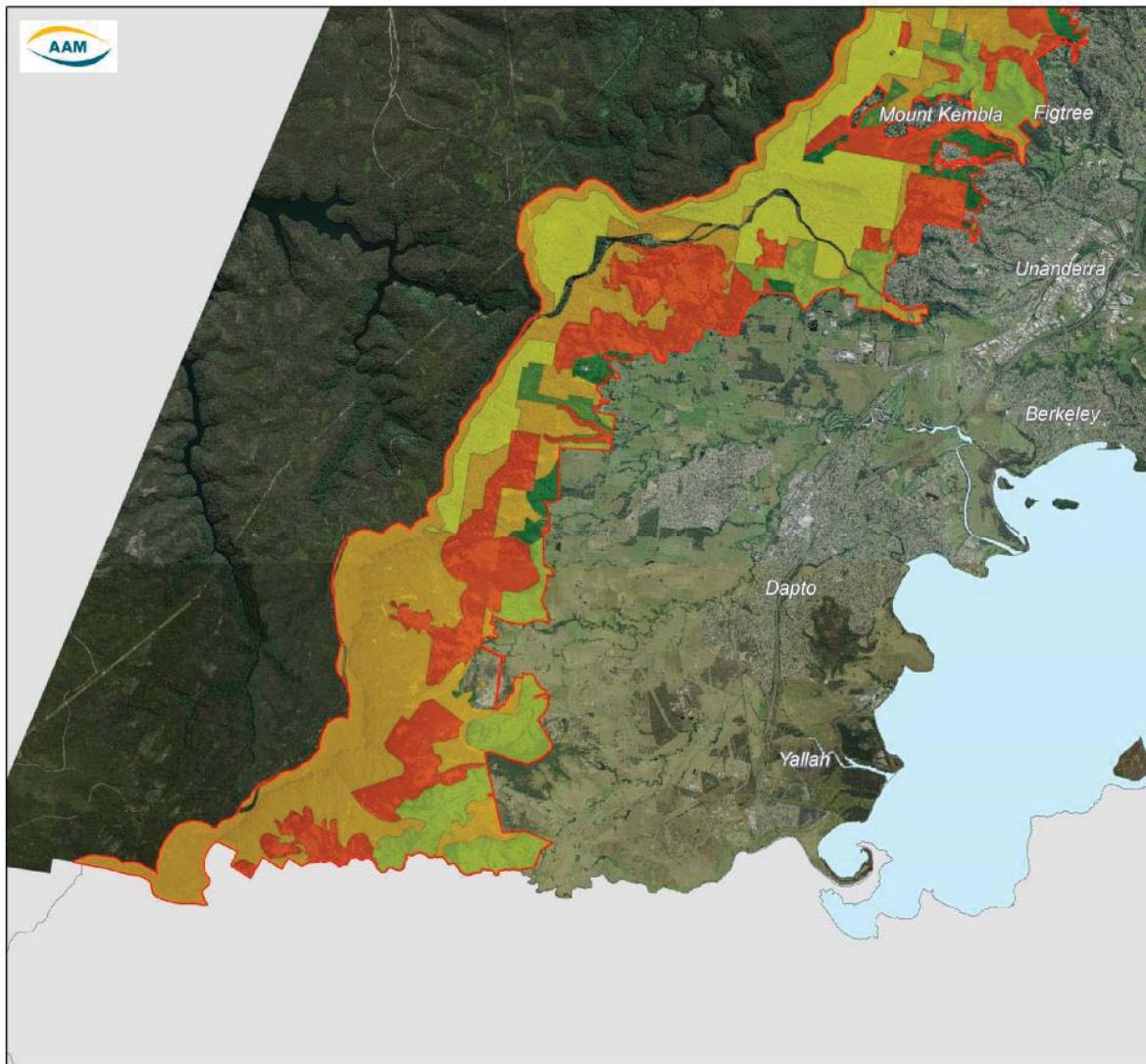
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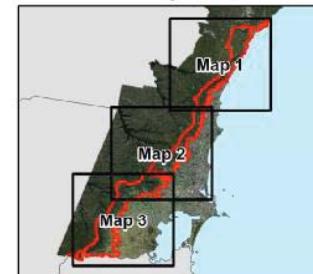
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Illawarra Escarpment Wollongong LEP 2009 Map 3



Legend

Wollongong LEP 2009

-  E1
-  E2
-  E3
-  E4
-  RU1
-  RU2
-  RU4

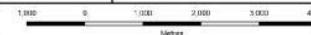


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Printed: 22/10/2014

Aerial Photography: 2012

Scale: 1:68,750



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Comparison of Key Changes between Illawarra Escarpment Strategic Management Plan 2006 and the draft Illawarra Escarpment Strategic Management Plan 2014

Section	IESMP 2006	draft IESMP 2014	Comment
Vision	Protect, conserve and manage the environmental values and assets of the Illawarra Escarpment consistent with the principles of Ecologically Sustainable Development	The Illawarra Escarpment is an outstanding feature of the Illawarra region providing a natural backdrop to the city as well as encompassing areas of high conservation value and rich cultural heritage. The long term vision for this area is for these values to be preserved and enhanced through public reserve or private stewardship.	New vision reflects the primary values identified in the plan. It encompasses both public reserve and private stewardship.
Objectives	<ul style="list-style-type: none"> • identify important environmentally significant areas of the escarpment and foothills; assess the existing land-use zones within the escarpment and identify changes to the zoning regime to align conservation requirements and land-use zones; • provide a framework for consistency in applying WCC land use planning policies to current and future public and private land use; • identify voluntary land management options for all land tenures consistent with the conservation values; • outline potential implementation strategies to facilitate partnerships between public and private land holdings with respect to voluntary management options; and • discuss possible conservation incentives to encourage conservation outcomes. 	1. identify the environmental, cultural and economic values of the escarpment and foothills requiring conservation; 2. define the principles and strategic direction for protecting and enhancing escarpment values; 3. outline an action plan for Council to improve escarpment management.	New objectives reflect the focus of IESMP 2014.

Comparison of Key Changes between Illawarra Escarpment Strategic Management Plan 2006 and the draft Illawarra Escarpment Strategic Management Plan 2014

Section	IESMP 2006	draft IESMP 2014	Comment
Principles	<ul style="list-style-type: none"> • the Aboriginal people were the original custodians of the environment; • the importance of the escarpment for it's natural and cultural heritage; • the recognition that the asset is in a degraded state and therefore continual improvement is required; • the need to develop and maintain partnerships to achieve outcomes; • the importance of engaging all sectors of the community in asset management; • the need for an adaptive management approach to provide flexibility and assessment of effectiveness of actions; • the need to consider and manage cumulative impacts - where individual disturbance has the potential to act as one to create a cumulative impact, which may be greater than the sum of the individual actions (disturbance or impacts); • the importance of a strategic approach; and • the need for embracing ESD principles in managing the assets of the escarpment. 	<ul style="list-style-type: none"> • the Aboriginal people are the original custodians of the environment; • the escarpment has important natural and cultural heritage values which need to be preserved; • some areas of the escarpment are in a degraded state and therefore require active management; • any development of the escarpment should result in an overall conservation improvement to the escarpment; • private stewardship of escarpment land is required to protect and enhance escarpment values; • partnerships between land managers and government is required to improve the condition of the escarpment; • all sectors of the community need to be engaged in asset management; • an adaptive management approach is required to ensure actions are effective; • the escarpment must be considered as a whole to avoid multiple small decisions leading to negative cumulative impacts; • a long term strategic approach should be adopted; and • Ecologically Sustainable Development principles should be applied in managing the assets of the 	Re-worded for consistency and ease of use. Wording slightly modified by EPRG.
The Need for a new integrated approach	Statement of the need for a more integrated approach to planning and managing the escarpment	Integrated into Principles	

Comparison of Key Changes between Illawarra Escarpment Strategic Management Plan 2006 and the draft Illawarra Escarpment Strategic Management Plan 2014

Section	IESMP 2006	draft IESMP 2014	Comment
Existing Plans Legislation, Strategies and Policies	Mention that plans exist at various levels; local, regional, state and national.	Moved to Planning section with additional detail about currently relevant plans and strategies.	
Role of Council	nil	New section clarifying limitation of Council's powers on the escarpment.	This was required given the clear direction from State Government that coordination of escarpment management is the responsibility of Council.
Commission of Inquiry IESMP 2006	Background on COI 1999	Largely the same.	
Strategic Framework	Pressure State Response Model	Moved to Implementation section	The new Implementation section is based on this structure of stating pressures, measuring the state of the escarpment and developing actions to respond to priority areas.
Exhibition and Submissions	Very brief section on exhibition	Integrated into IESMP 2006 section	Further discussion on the key points arising from exhibition.
Illawarra Escarpment Land Use Review 2007	nil	New section on IELURS 2007 and its findings	
Wollongong LEP 2009	nil	New section on the development of Wollongong LEP 2009	
Farmborough Heights to Mount Kembla Concept Plan	nil	New section on the Farmborough Heights study	

Comparison of Key Changes between Illawarra Escarpment Strategic Management Plan 2006 and the draft Illawarra Escarpment Strategic Management Plan 2014

Section	IESMP 2006	draft IESMP 2014	Comment
Ownership	nil	New section looking at public versus private ownership within the escarpment	This is to clarify the important issue of how little land Council owns in the escarpment and the high proportion of private ownership.
Mining	Section relating to the establishment of Illawarra Coal Mine Interagency Group	Statement on current mining activity within the escarpment and Illawarra Coal Mine Interagency Group	
Farmland	nil	Statement on agricultural land within the escarpment	Represents some of the views expressed to Council from rural residents of the escarpment.
Dedication of land to public ownership	nil	Discussion of the issue of dedication of land to public reserve on the escarpment	Points out that NPWS has the final say on whether to include land in Illawarra Escarpment State Conservation Area.
Stewardship	nil	Flagging of the continuation of the approach introduced in IESMP 2006 of encouraging private stewardship of the escarpment.	Clarification of the word stewardship mentioned in the vision.
Threatening Processes	List of threatening processes	Moved to Implementation section as the "Pressure" part of the Pressure State Response model	
Escarpment Attributes	Description of areas mapped as Core, Biophysical Support for Core, Landscape Support for Core and Escarpment Interface	Replaced by new section on Escarpment Values - Environmental, Social and Economic	Attributes mapping was largely to inform LEP 2009 which has now been completed.
Existing Land Use Zonings	LEP 1990 zones	LEP 2009 zones (moved to Appendix)	
Proposed New Land Use Zones	10a, 10b, 10c etc based on core, biophysical support for Core...	Replaced by new Planning section defining the desired future outcomes for current land use zones within the escarpment.	

Comparison of Key Changes between Illawarra Escarpment Strategic Management Plan 2006 and the draft Illawarra Escarpment Strategic Management Plan 2014

Section	IESMP 2006	draft IESMP 2014	Comment
Land Use Review Strategy/Master Planning for developable land	Flagging that an additional study would inform the new LEP zones.	This study was completed in 2007, the new LEP in 2009. Outcomes of this study are presented as part of the Planning section.	
Special Provisions	New provisions to be added to LEP 1990	New provisions are integrated into LEP 2009	
Development Rights and Existing Use Rights	Statement on existing use rights and loss of development rights	No longer required given that changes to land use zones are not required in IESMP 2014	The issue of existing use rights is not relevant as draft Illawarra Escarpment Strategic Management Plan 2014 does not propose to change land use.
The Moratorium	Statement on when the moratorium will be lifted	No longer relevant. Moratorium lifted in 2009.	
Special Sites	Discussion of certain sites within the escarpment which are subject to trusts and leases	No longer relevant. Integrated into broader approach.	
Clearing of Vegetation	Statement about the hopes of IESMP for state legislation to support restrictions on the clearing of native vegetation	Vegetation clearing discussed as part of Planning section.	
Ecotourism	Highlights the ecotourism potential of the escarpment	Not included due to Ecotourism not being a part of LEP 2009. Discussion of Ecotourism is in the context of development in Planning section.	Wollongong LEP 2009 does not include eco-tourism as a use. The draft IESMP 2014 focusses on the planning principles relevant to a broad range of developments, not just eco-tourism.

Comparison of Key Changes between Illawarra Escarpment Strategic Management Plan 2006 and the draft Illawarra Escarpment Strategic Management Plan 2014

Section	IESMP 2006	draft IESMP 2014	Comment
Managing Natural and Cultural Heritage Resources	Discussion of various values to be enhanced	Moved to Values section	Less discussion of theory as this weighs down the document and is best sourced elsewhere.
Biodiversity	Discussion of biodiversity and best approach for enhancing biodiversity.	Moved to Values section	Less discussion of theory as this weighs down the document and is best sourced elsewhere.
Pest Management	Discussion of pest management	Moved to Implementation section	Less discussion of theory as this weighs down the document and is best sourced elsewhere.
Weed management	Discussion of weed management	Moved to Implementation section with specific mention of the Illawarra District Noxious Weeds Authority	Less discussion of theory as this weighs down the document and is best sourced elsewhere.
Water Management	Discussion of water management	Moved to Values section	Less discussion of theory as this weighs down the document and is best sourced elsewhere.
Riparian Land Management	Discussion of Riparian Land Management	Moved to Implementation section	Less discussion of theory as this weighs down the document and is best sourced elsewhere.
Bushfire Management	Discussion of Bushfire Management	Moved to Implementation section	Less discussion of theory as this weighs down the document and is best sourced elsewhere.
Soil Management	General principles of soil management	Not discussed. Soil management is a component of other management activities and is standard practice.	
Cultural and Heritage Assets	Discussion of Heritage principles	Moved to Values section and Implementation section.	Integrates the recommendations from the Heritage studies from 2007 and 2008.

Comparison of Key Changes between Illawarra Escarpment Strategic Management Plan 2006 and the draft Illawarra Escarpment Strategic Management Plan 2014

Section	IESMP 2006	draft IESMP 2014	Comment
Primary Production Sustainability	Discussion of farming principles. Promise to conduct Agricultural Sustainability Study.	Moved to Background section	Agricultural sustainability study never occurred. No funding is currently available to conduct this study.
Summary Management	Table of Investigation and Planning Phase and On-ground Works Phase	Replaced by Action Plan	Action Plan focusses on actions able to be implemented by Council or by others with Council facilitation.
Management Structure	A committee of Council	Escarpment Planning Reference Group.	

Submissions in Reply for the draft IESMP 2014

Submission Number	Organisation	Submission	Change to Report (Y/N)	Response to Comment
1	Resident	Congratulations on finally getting this plan on to public exhibition. I hope it is formally adopted by Council soon. Well done.	N	Noted.
2	Resident	Reminding Council that private landowners do more to look after the escarpment values than public owners. An escarpment park is not the answer. Please advise if there are any changes further restricting private landowners.	N	The IESMP 2015 has a vision for the conservation of the escarpment through public reserve or private stewardship. Additional development restrictions are not proposed as part of the IESMP 2015.
3	Illawarra Coal	BHP Billiton Illawarra Coal(BHPBIC) is a significant land holder on the Illawarra Escarpment. In addition, BHPBIC has donated land to the NPWS that now comprises approximately half of the Illawarra Escarpment State Conservation Area. Illawarra Coal is concerned about the manner in which mining is portrayed in this draft. For examples, Sections 3.6.1, 4.1.2 and 6.1 describe negative impacts (or sometimes speculate on potential impacts) associated with past or current mining activities. In light of the current management of land owned by BHPBIC and the environmental performance of our operations (primarily Dendrobium Mine), our contribution to the Regional Deer Program, bushfire and weed management, and the donation of land for conservation purposes, Illawarra Coal requests that the treatment of mining in the Illawarra Escarpment Strategic Management Plan provide better balance in relation to its place and function within the escarpment.	Y	The sections of the draft IESMP 2014 related to mining have been revised in consultation with Officers from the NSW Trade & Investment, Division of Resources & Energy, Environmental Sustainability Unit and the Escarpment Planning Reference Group.
4	Illawarra District Noxious Weeds Authority	Comments from the Illawarra District Noxious Weeds Authority relate to Section 6.3.1.2 Weed Management. It is suggested Table 5 be updated to better reflect the Goals and Objectives of the NSW Invasive Species Plan, NSW Biosecurity Strategy and impending legislative changes under the Biosecurity Act. Many of the Actions are currently being implemented by the IDNWA under Regional Weed Action program funding. Further comment on page 54 reinforces the prioritisation of weed programs according to risk. I hope these comments are beneficial in the development of the plan.	Y	These detailed changes were integrated into the revised IESMP 2015.
5	Resident	As our land backs on to the now well established Edgewood Estate I do wonder who has to clear and maintain the riparian corridor at the back of our land? Many years ago the Brick Works were very diligent and had a clear area behind our back fences; unfortunately this is no more. I know I am making an individualised comment on one block but wonder how many other residents are in this situation.	N	Operational matter which has been referred to the relevant section for response.
6	Resident	The concern I have in regards to the escarpment and its management is the impact of both domestic and feral cats on biodiversity - particularly birds, small mammals and frogs. I would like to see mention of cats in the section relating to pests in the escarpment. I would also like to see a strategy added to the final section that identified how Council would reduce the impact of cats on the biodiversity of the escarpment, for example night curfews or total bans on allowing domestic cats to roam freely. Also some mention of a feral cat eradication plan. Thank you.	Y	Section 6.3.1.3 of the IESMP 2015 was amended to refer to feral cats in the discussion of pest animals on the escarpment. Feral cats are considered as part of Council's Vertebrate Pest Animal Management Policy and although Council supports the Animal Welfare League to trap feral cats, they are not currently considered a priority pest for Council and therefore do not have a pest management plan.
7	Resident	1.All of the requirements to satisfy (bushfire, geotech, flood, etc reports) are becoming too onerous for people to renovate/build in the escarpment areas - reports are overpriced, yet council and reporting companies seem to control it. The process should be more clear-cut and information shared, rather than every individual householder needing to pay so much for the same/similar information/reports. 2. It would be good if council began some program to encourage/support landowners/households to eradicate noxious weeds such as lantana, bitou bush, etc. although Bushcare groups work on this, they are still spread via creeks, mulching etc., - if instructions and systemic sprays were subsidised, more householders would take an role on their properties. 3. Mt. Keira lookout should be retained as a community-use space,	N	Workshops addressing key policies affecting landowners are included in the Escarpment Action Plan Chapter 6 of the IESMP 2015. Council is preparing a Plan of Management for Mt Keira which will guide future use of the site. The Plan of Management will consider IESMP 2015.

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8	Resident	with facilities and kiosk, but not overrun with a function venue, as happened these last years before the road was closed for repairs.	N	Noted. Mountain biking is identified as a management issue in the IESMP 2015. Council is working with NPWS and other landholders on identifying appropriate land for recreational mountain biking.
		<p>I'm writing to specifically address the lack of information regarding the potential benefits versus perceived risks associated with mountain biking in the draft plan. Despite there being a brief reference to mountain biking in the "Implementation" section of the plan (section 6.3.2.4.2, Pg 59), no serious consideration is given to this rapidly growing and hugely beneficial recreational activity. Local Initiatives: Destination Wollongong is currently undertaking a separate investigation and strategic planning process for an international standard mountain bike park, located on Mt Keira. This concept, which is part of a broader plan to develop Mt Keira as an "Adventure Playground", is already garnering broad support from council, state government members and local community groups, such as the Wollongong Mountain Bike Club, as a deeper understanding of the significant socio-economic benefits are revealed. Precedents: There are numerous similar projects around the nation and internationally that clearly demonstrate the huge economic and social benefits of this sport, while simultaneously managing to preserve and often enhance the conservational aspects of the land that they're constructed on. Trail parks in Thredbo, Mt Buller, Mt Stromlo and, closer to home, Mt Annan, Manly Dam and the Lower Blue Mountains amply demonstrate the increasing popularity of this sport and the significant tourism benefits that it brings to the host communities. Across the Tasman, Rotorua and Queenstown are both home to purpose-built mountain bike parks that generate tens of millions of dollars in tourism for their respective communities each year. Sustainability: NPWS has developed their own "Sustainable Mountain Biking Strategy" in recognition of mountain biking's rapidly increasing popularity. Their vision is "excellence in mountain biking is a normal part of recreation management in NSW national parks and reserves, where high quality mountain biking experiences are provided in an ecologically and socially sustainable manner across the landscape" (NPWS Sustainable Mountain Bike Strategy, Pg 2, Section 1.3). The document goes on to say that "the NPWS will promote cycle access to and through designated NPWS parks" (Pg 3, Section 1.5). There have already been a number of projects in the Sydney basin area that NPWS have undertaken in cooperation with councils, local clubs and professional trail building companies (building to international trail construction standards) that have resulted in a win-win outcome for all stakeholders. Examples of these are Lower Blue Mountains - Glenbrook, Bantry Bay, Hornsby and Manly Dam. In co ncert with NPWS, international and national mountain biking bodies (International Mountain Biking Association - IMBA & Mountain Biking Australia - MTBA) continue to educate and advocate for environmentally sustainable trails, destroying the myth that the sport causes environmental damage. In fact, more often than not, the converse is true. Social & Economic Benefits: Cities and towns that have adopted a pro-active approach to developing mountain bike parks are reaping multiple benefits from their foresight. There is significant data available showing the huge growth in tourism brought about by mountain biking. Interestingly, mountain biking attracts a large proportion of 40-50 year olds, across a wide demographic of the community, leading many to refer to it as the new 'golf'. The implication is that this group typically has a substantial disposable income which is spent on everything from bicycling equipment to meals, accommodation and airfares, while partaking in the sport. Mountain biking is also a healthy, family-friendly sport with significant appeal across all age groups. It promotes fitness and sound social values, as families ride the trails together. International Events: Cairns and Mt Stromlo have both hosted international mountain biking events in recent years, attracting thousands of visitors and international attention to their respective regions. With the popularity of the sport continuing to grow each year and an ever increasing number of major events being staged as a result of that growth, Wollongong is well placed to become Australia's premier mountain biking venue and capture a large proportion of that market. Its proximity to the country's most populous city and busiest international gateway give it unique advantages</p>		

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		over any other location in the country. Wollongong's rare and fortunate topography further enhance its appeal to event organisers, as it already provides easy access to the city, with ample accommodation, restaurants and transport infrastructure in place. Summary: Wollongong has a unique opportunity presented to it in the form of its incredible escarpment. There's no doubt that it is a valuable jewel in the city's crown and it should be carefully managed and protected. Equally, through the sustainable development of an international standard mountain bike park on Mt Keira, the region could greatly benefit from substantial socio-economic growth for many generations to come.		
9	Resident	Under section 5 - Land Use Planning - The IESMP (table 4) identified 9 zones within the escarpment plan area. Whilst the Wollongong LEP 2009 defines these zones and permissible uses the IESMP provides further detail on the intent of the zones within the escarpment in order to guide the consideration of DAs and planning proposals. In doing so however, the IESMP only provides further detail in relation to zones E2, E3 and E4. No further detail is provided in relation to the remaining 6 zones within the escarpment which collectively make up 40% of the escarpment area. Further details on these zones, particularly rural landscape/primary production would be beneficial. Appendix B - COI recommendations - 5F - Joint study for Calderwood Valley should be carried out prior to determination of applications for Rural Residential development. Status -subject to subsequent rezoning studies. Given the COI recommendations were handed down in May 1999 (15 years ago) when will the rezoning study be undertaken in the Calderwood Valley to give landowners some certainty with their land. This point should be progressed in the IESMP.	N	Zones E2, E3 and E4 make up the vast majority of zoning on the escarpment. Table 4 in the IESMP 2015 shows 86% of the zoning on the escarpment is E1, E2, E3 or E4. E1 zone is NPWS which is guided by their plan of management. The Calderwood Valley was not included in the Yallah-Marshall Mount Rezoning process and is not currently scheduled for rezoning consideration.
10	Roads and Maritime Services	Roads and Maritime Services (RMS) has reviewed the draft plan and notes the plan provides development constraints for areas which are considered unsuitable for some forms of development. However, the plan will not impact current Wollongong LEP 2009 zonings or introduce any new development restrictions. RMS notes all future planning proposals and development applications will continue to be assessed on a case by case basis with consideration to the plan and RMS will continue to have the opportunity to provide comment on developments likely to impact the classified road network. RMS considers the plan is unlikely to have a significant effect on the classified road network and RMS does not have any further specific comments or concerns on the draft plan.	N	Noted.
11	Resident	I have lived at the top of Bulli for the past 36 years, when Old Bulli Mine was operating and eventually closed down a few years ago. The property was then purchased by BHP Billiton who submitted a plan to develop the land for housing. Fortunately this was not passed by Local Government and eventually (about 6 years ago) became the property of the Main Roads Board who have looked after it very well by clearing the land behind my property and that of my neighbours constantly. I hope and trust that the IESMP 2014 Draft will be permanent and the escarpment will remain without further development.	N	Noted.
12	Resident	Like to add some concerns with the Strategic Plan of our escarpment. 1) there is no proper drainage water goes everywhere. 2) Old houses, lots of them, do not have septic. This kills our plants and the soil keeps them damp, that make the trees get rotten and tend to just fall. 3) The roads should be kept more clear. 4) Lots of just vacant land, have so much undergrowth that make the environment not only not healthy but a nice bushfire. For others that do not live in the northern Illawarra find an empty no fence. A nice place to throw their rubbish like old cars etc. Cokeworks Road and Morrison Avenue, Buttenshaw Drive the footpath is such a mess no fences people tend to throw there rubbish on private land. Graffiti so where there is plenty of land there is always drugs growing as well.	N	Noted.
13	NSW Office of Environment and Heritage and the NSW National	We have reviewed the draft Plan and provide detailed comments from both OEH and the NSW National Parks and Wildlife Service (NPWS). Overall, we understand the review has been undertaken to reflect the additional studies undertaken since 2006. However the revised IESMP 2014 contains lengthy historical detail, some of which pre-dates the 2006 IESMP, and we feel the document loses the clarity of key messages because of this. This may be improved by more clearly articulating the changes in the draft IESMP 2014 that have changed since the 2006 IESMP, or by moving some of the history to the back of the Plan. It is unclear whether the revised IESMP intends to provide a basis for Council to co-ordinate joint stakeholder	Y	The IESMP 2015 is approximately 25% shorter than the IESMP 2006. Other feedback has been integrated into the IESMP 2015, notably chapter 5 related to planning and the action plan in chapter 6.

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Parks and Wildlife Service	<p>actions, or whether it only intends to specify Council's role in the management of escarpment values. Whilst Section 2.4 does state that it is intended to be an action plan for Council, we feel that this should be more clearly stated upfront in the Executive Summary of the revised IESMP. The draft IESMP 2014 acknowledges Council's limited role in active management of escarpment land. However, the action plan currently assigns many actions to Council as a 'leader'. It is our view that Council is better placed to be a 'facilitator' or 'partner' in some of the actions, for example, actions that relate to management or extension of the State Conservation Area. We recommend that actions requiring Council to play a co-ordination or partnerships role be recognised in the action plan, with a clear recognition of other key stakeholders against the relevant actions. We recognise that the most effective outcome of the Illawarra Escarpment Strategic Management Plan (IESMP 2006) to date has been improved co-ordination of on-ground management actions. For example, the Local Land Service and Council co-ordination of deer control efforts has been very successful in achieving on-ground results. We recommend that a focus on joint initiatives of this nature would lead to improved management of escarpment lands. However, if the draft IESMP does not intend to co-ordinate such joint management, clarification on where this responsibility sits would be recommended.</p> <p>1. If the intent of the revised IESMP is to define Council's role in managing escarpment values, rather than co-ordinating multiple stakeholders, then this should be clearly stated upfront into the document. 2. The Illawarra Biodiversity Study should be referenced as the Illawarra Biodiversity Strategy 2011. 2.6 Given the limited amount of land directly managed by Council on the escarpment, the Draft IESMP should acknowledge the key role played by the NSW National Parks and Wildlife Service and other key land holders in managing the escarpment lands. 4.2.4. A correction is requested to clarify that the management of Illawarra Escarpment State Conservation Area is subject to the adopted Plan of Management (1989), not the Draft Plan of Management. The Walking Tracks Master Plan is guiding the development of walking tracks, not recreation, within the reserve. Support from all levels of government for the implementation of the Walking Tracks Master Plan needs to be strengthened. 5.1 The Illawarra Biodiversity Study should be referenced as the Illawarra Biodiversity Strategy 2011. 5.2.2.1 The 3rd bullet point should be amended to "Low density housing or tourism development that will not degrade the biodiversity, visual or cultural values of the land." 5.2.2.1 The 4th bullet point should also include reference to "neutral or beneficial effect not the biodiversity, visual and cultural values of the land". 5.2,2,1 The 3rd bullet point should reference the source of the mapping of 'primary' and 'support for primary' lands. 5.2.3.1 The 2nd bullet point suggests 'financial mechanisms for ensuring ongoing management and enhancement of escarpment values'. This is more critical within E3 zones, due to the increased biodiversity constraints within E3. This goal should be copied, or moved to the objectives of the E3 zone. 5.2.3.1 The 4th bullet point should also include reference to 'neutral or beneficial effect not he biodiversity, visual and cultural values of the land.</p> <p>5.3.2 Voluntary Conservation Agreements are now referred to as 'Conservation Agreements'. Please find further information at: http://www.environment.nsw.gov.au/cpp/ConservationAgreements.htm 5.3.2.2 in the context of the various conservation agreements. It is worth adding that BioBanking agreements are established with a dedicated funding plan designed around a site specific management plan. It is for this reason that they are the preferred conservation agreement for private land on the escarpment. We recommend it be highlighted that BioBanking agreements are the preferred mechanism for securing conservation agreements on escarpment lands. (Please also note that OEH will only negotiate (voluntary) Conservation Agreements in exceptional circumstances). 5.5.2 Point 27 should clarify what 'appropriate' vegetation is. It is recommended that local native species associated with native vegetation types on site would constitute appropriate vegetation. 6.3.1.5.1 Bushfire management - Management of asset protection zones is one</p>			

Submission Number	Organisation	Submission	Change to Report (Y/N)	Response to Comment
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of the major land use conflicts arising from any development on escarpment land.

While there may be potential for some degraded sites to facilitate some forms of development, if the asset protection zones are not contained to existing cleared areas they have potential to have significant impacts on biodiversity values. This chapter currently contains no clear guidance on how asset protection zones should be managed on escarpment lands. It is recommended that a clear statement be retained (as per page 29 of the current IESMP 2006) to continue the approach that "Potential development will need to be planned, considering any potential requirement for a bushfire asset protection zone as no clearing will be approved for the purposes of establishing an asset protection zone. Therefore, any new development will need to occur in an adequately sized existing cleared area that is not targeted for biodiversity enhancement". 6.3.4 Action Plan - The action plan sets out an ambitious schedule of actions with Council as the 'leader'. We recommend that the Action Plan acknowledge that many of the leadership roles currently identified for Council are shared by all authorities with planning, governance and management responsibilities on the escarpment (OEH, NPWS, LLS, SCA, ILALC, DoPE, DII). Collaboration/co-ordinated management functions of the Escarpment Planning Reference Group need to be more clearly expressed. The action plan should clearly identify the roles of other authorities/stakeholder's in implementing IESMP 2014. Ideally, this should be worked through in consultation with key joint stakeholders. For example, it is appropriate for many actions that Council perform a 'partner' or 'support' role with other key stakeholder such as NPWS or OEH for actions relating to: * Identification of potential additions to NPWS reserves * Identification, recording and research of areas of natural/cultural importance * Consulting with users regarding use and development of escarpment * Promoting understanding of escarpment values * Facilitating land management networks, other initiatives and stewardship * Increase awareness/understanding of government policies * Seeking opportunities for funding * Identification and management of unauthorised uses * Promotion of escarpment values and attractions. You may consider amending Action 2.1.2 to "Work with NPWS and OEH to facilitate landowner dedication of suitable escarpment land to NPWS, guided by the identification of priority areas with BioMap".

While there may be potential for some degraded sites to facilitate some forms of development, if the asset protection zones are not contained to existing cleared areas they have potential to have significant impacts on biodiversity values. This chapter currently contains no clear guidance on how asset protection zones should be managed on escarpment lands. It is recommended that a clear statement be retained (as per page 29 of the current IESMP 2006) to continue the approach that "Potential development will need to be planned, considering any potential requirement for a bushfire asset protection zone as no clearing will be approved for the purposes of establishing an asset protection zone. Therefore, any new development will need to occur in an adequately sized existing cleared area that is not targeted for biodiversity enhancement". 6.3.4 Action Plan - The action plan sets out an ambitious schedule of actions with Council as the 'leader'. We recommend that the Action Plan acknowledge that many of the leadership roles currently identified for Council are shared by all authorities with planning, governance and management responsibilities on the escarpment (OEH, NPWS, LLS, SCA, ILALC, DoPE, DII). Collaboration/co-ordinated management functions of the Escarpment Planning Reference Group need to be more clearly expressed. The action plan should clearly identify the roles of other authorities/stakeholder's in implementing IESMP 2014. Ideally, this should be worked through in consultation with key joint stakeholders. For example, it is appropriate for many actions that Council perform a 'partner' or 'support' role with other key stakeholder such as NPWS or OEH for actions relating to: * Identification of potential additions to NPWS reserves * Identification, recording and research of areas of natural/cultural importance * Consulting with users regarding use and development of escarpment * Promoting understanding of escarpment values * Facilitating land management networks, other initiatives and stewardship * Increase awareness/understanding of government policies * Seeking opportunities for funding * Identification and management of unauthorised uses * Promotion of escarpment values and attractions. You may consider

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		amending Action 2.1.2 to "Work with NPWS and OEH to facilitate landowner dedication of suitable escarpment land to NPWS, guided by the identification of priority areas with BioMap".		
14	Sydney Catchment Authority	<p>The Sydney Catchment Authority (SCA) makes the following comments on the draft IESMP 2014. As noted in the draft Plan, the area defined as 'Illawarra Escarpment' includes parts of, and is adjacent to, the eastern parts of the Metropolitan and Woronora Special Areas, categorised as Schedule 1 lands under the Sydney Water Catchment Management Act 1999. Schedule 1 Special Areas form the primary buffer around water storages and protects drinking water quality and the ecological integrity of the water supply catchments. Development and activities in these areas is restricted, and they are managed as 'closed catchments' with public access restricted to protect drinking water quality. As a land owner and manager within and adjacent to the Illawarra Escarpment, the SCA has an interest in protecting and conserving the natural and cultural values of the Escarpment, and any management responses potentially impacting drinking water catchments or SCA operations. The SCA currently undertakes a range of land management activities including pest species management, fire management, erosion control and management of unauthorised access. In undertaking these activities, the SCA works cooperatively with other stakeholders, including the National Parks and Wildlife Service (NPWS) with whom it jointly manages land under the Special Areas Strategic Plan of Management.</p> <p>The SCA notes that the draft IESMP 2014 is a review and update of the 2006 Illawarra Escarpment Strategic Management Plan, and its objectives are to identify the values of the escarpment, define the principles and strategic direction for protecting and enhancing escarpment values, and outline actions for Wollongong City Council relating to escarpment management. The SCA supports the revision and update of the Illawarra Escarpment Strategic Management Plan, and notes that the 2014 document provides a clear summary and explanation of the numerous policies, plans, strategies and mechanisms by which the Escarpment is managed - by Council and by other stakeholders. The SCA notes that the draft IESMP 2014 does not introduce new initiatives for management of the Escarpment, but provides a review and update of the status and progress of existing initiatives, with a particular focus on the role of Wollongong City Council. The draft IESMP 2014 does not propose any new actions or responsibilities for the SCA, and the SCA has identified no adverse impacts on the Special Areas or water catchment values arising from the objectives or management actions proposed within the draft IESMP 2014. As a result the SCA has no comment or request for alterations to make on the draft Plan. The SCA will continue to be engaged with Wollongong City Council and other stakeholders, as appropriate, into the management of the Metropolitan and Woronora Special Areas within the Wollongong local government area.</p>	N	Noted.
15	Executor Estate	<p>We agree with the desire to properly set out criteria which may be used to assess future planning proposals. However, we have some concerns with Section 5.5 (Development Control Framework) of the draft Plan, as follows: 1. This Section states that it applies to "proposals" which we understand to be planning proposals and not development applications (these terms are separately used in Section 5.2). 2. If it is intended to apply the assessment criteria in Section 5.5.2 to development applications (for example, to land zoned E4), we would submit that some of the assessment criteria are not appropriate for the following reasons:</p> <p>a) Section 5.5.2 does not distinguish between land zoned E2 and E4 located within the Illawarra Escarpment Area. The same controls would be proposed within the Development Control Framework Section 5.5 to land zoned for Environmental Conservation to land already zoned for Environmental Living (located further down in the foothills). (b) We would submit that the level of control should be different, given the difference in the physical character, topography and location of the differently zoned land. Section 5.2.3 recognises this. (c) Section 5.5.1 of the draft Plan states that development should be secondary to the improvement of escarpment values. This provision does assume that development is not permitted. This objective may conflict with Clause 7.8 of the Wollongong LEP 2009 and acts to possibly sterilise land that otherwise would be suited for development. (d) In light of the critical shortage of land for housing, this</p>	Y	Chapter 5 has been improved to clearly focus on the requirements for planning proposals on the escarpment rather than Development Applications which are guided by the Development Control Plan for the Illawarra Escarpment.

Submission Number	Organisation	Submission	Change to Report (Y/N)	Response to Comment
16	Resident	<p>would not be good public policy and may amount to a de facto resumption of the land if applied to land zoned E4. (e) Similarly, if applied to development applications, some of the assessment criteria in section 5.5.2 do not reflect and are inconsistent with clause 7.8(3) of the Wollongong LEP 2009. Clause 7.8(3) refers to the location of development "to minimise any adverse impact on the natural features and environment of the Illawarra Escarpment" and to incorporate on the land "conservation and rehabilitation measures to enhance the Illawarra Escarpment". (f) Criteria 3, 7, 8, 12 and 13 of Section 5.5.2 do not appear to be consistent with this and may act to limit or even prohibit development in some areas if they are applied to land already zoned for Environmental Living. We respectfully submit that these provisions clearly state that they only apply to planning proposals and not to development applications for land already zoned E4.</p> <p>Escarpment Property Owner. The responsibility of managing such a unique property is vast and varied, covering dozens of quite differing issues. My suggestion is simply a network of similar old mine site owners to share knowledge. My request to WCC is to create a database of mine sites in private ownership and share that with these owners. This would establish a network of likeminded people and from this should come improved results. 2. This property provides a seal road access to the lower escarpment firetrail. This road is private property but I allow the many hundreds of hikers and pushbike riders free access. I would like to have WCCs opinion - Is this the correct thing to do? Am I at risk of legal actions? Thank you.</p>	N	<p>The IESMP 2015 contains actions related to improved understanding and knowledge sharing between Council and landowners. Legal issues regarding access need to be investigated by the landowner.</p>

Changes to the draft IESMP 2014 made post exhibition

IESMP 2015 Section	Original Text draft IESMP 2014	New Text draft IESMP 2015	Rationale
Title (and throughout)	draft Illawarra Escarpment Strategic Management Plan 2014	Illawarra Escarpment Strategic Management Plan 2015	Final version.
Acknowledgements		<p>Wollongong City Council acknowledges that the Aboriginal people of the Dharawal, Wadi Wadi and Eloura tribe are the original occupants of the Illawarra and the original custodians of the environment. We understand the suffering and injustice that resulted from colonisation and that for many Aboriginal people this continues today. Wollongong City Council recognises that the Illawarra Escarpment and foothills have particular significance to local Aboriginal people.</p> <p>This plan was prepared by Wollongong City Council in consultation with the NSW Department of Planning & Environment, National Parks & Wildlife Service, NSW Trade & Investment–Division of Resources & Energy and the Escarpment Planning Reference Group; comprising Councillors, landholders, community members, community group representatives and local Aboriginal representatives.</p> <p>Wollongong City Council would particularly like to thank the Illawarra Escarpment Planning Reference Group, comprising Councillors, landholders, community members, community group representatives and local Aboriginal representatives, for their contribution and support for the development of this updated plan.</p>	Acknowledgement section was required. The acknowledgement text is based on the IESMP 2006.
List of Figures		<p>List of Figures</p> <p>Figure 1.1 Illawarra Escarpment Boundary as defined in Wollongong Local Environment Plan 2009.</p> <p>Figure 1.2 Moore St Austinmer showing ring barked trees</p> <p>Figure 3.1. Map of the Illawarra Area National Parks managed reserve and Council land relative to the Illawarra Escarpment boundary and the Wollongong Local Government Area.</p> <p>Figure 4.1. Map of visual precincts defined by the Visual Quality Assessment 2006.</p>	
Executive Summary 1.1		The updated plan focuses on the role of Wollongong City Council in managing the Illawarra Escarpment in partnership with relevant government agencies and landholders.	Additional sentence to emphasise the role of Council as a partner in escarpment management (following feedback from OEH). Additional references for studies were also added.
1.2	European cultural heritage	Non-Indigenous cultural heritage	Term changed based on feedback from WCC Heritage Officer.
1.4	Most notable of these values are biodiversity, heritage and scenic values	Section 4 of this plan reviews these values in order to help guide future improvement works on the escarpment.	Explanation of the role of Chapter 4.

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1.5	The IESMP 2006 mapped Core,....	<p>Land use planning proposals in the escarpment will need to address these desired future outcomes and a number of assessment criteria are presented in Section 5.5.4.</p> <p>The IESMP 2006 mapped the Illawarra Escarpment based on its environmental attributes and which identified areas as either Core Escarpment, Biophysical Support for Core, Landscape Support for Core and Escarpment Interface.</p> <p>Core Escarpment land as defined in the IESMP 2006 has the following values:</p> <ul style="list-style-type: none"> • all areas identified by DEC (2002) (bioregional assessment) as having primary conservation significance; • all areas identified as having archaeological significance to European cultural heritage and identified as being of state or regional heritage significance in the Wollongong LEP 1990 and the Illawarra REP (1986); • 40m from the bank of all Category 1 streams identified by DIPNR (2004), plus a 10m buffer; • all areas of escarpment face. <p>Biophysical Support for the Core Escarpment areas have the following values:</p> <ul style="list-style-type: none"> • all areas identified by DEC (2002) as being support for core areas, • 20 m (at a minimum) from the ‘top of bank’ of Category 2 streams identified by DIPNR (2004) plus a 10 m buffer, • all lands that have an unbroken boundary (ie. are surrounded) by Core Escarpment areas within the study area. <p>Landscape Support for the Core Escarpment areas have the following values:</p> <ul style="list-style-type: none"> • all lands (at a minimum) within 10 m from the banks of Category 3 streams identified by DIPNR (2004) plus a 10 m buffer, • all lands identified as being within a floodway or flood prone area, • all lands identified by DEC (2002) as being enhancement areas, • all lands in the Illawarra escarpment unit having cultural landscape values identified in the 1981 Illawarra Regional Landscape and Environment Study at a level 5, • all lands that have an unbroken boundary (that is are surrounded by) Biophysical Support areas within the study area boundary. <p>Escarpment Interface areas have the following values:</p> <ul style="list-style-type: none"> • areas of prime crop and pasture lands identified in the Illawarra REP (1986), • areas identified as not being suitable for urban expansion in the Illawarra REP or currently zoned for urban use, • land zoned 1 or 6a in the Wollongong LEP1990, • land that is surrounded by landscape support within the study area boundary. 	<p>Emphasis on the role of Chapter 5 in guiding planning proposals.</p> <p>Additional detail on the attribute mapping process and the definition of each attribute.</p>

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		Although the mapped escarpment attributes are not included in IESMP 2015, the environmental attributes of the escarpment remain central to its strategic management. Any planning proposals or Development Applications on the escarpment will need to undertake detailed mapping of these values as a part of addressing the IESMP 2015.	Further clarity on the issue of mapping of escarpment attributes.
1.7		The IESMP 2015 is considered a Supporting Document to Council's Integrated Planning and Reporting Framework. It is anticipated that the Action Plan will be utilised to guide Council actions over the next five years and then be subject to review along with a future update to the IESMP.	Wording reflects Council's approach to Supporting Documents within the Integrated Planning and Reporting Framework.
2		This plan was prepared by Wollongong City Council in consultation with the NSW Department of Planning & Environment, National Parks & Wildlife Service, NSW Trade & Investment–Division of Resources & Energy and the Escarpment Planning Reference Group; comprising Councillors, landholders, community members, community group representatives and local Aboriginal representatives.	Updated departmental names.
2.1	Defining a boundary for the Illawarra Escarpment has proved problematic due to the variety of landscape features that are identified as being escarpment and the existence of established residential development in the escarpment. In particular, in the north of the Wollongong LGA there is typically a steep transition from the escarpment and the coastal plain whereas the south has significant areas of rolling foothills comprising elevated benches of relatively flat land. No single elevation represents where the coastal plain ends and the escarpment begins. Several boundaries have been used to define the escarpment	It is difficult to define a boundary for the Illawarra Escarpment due to the variety of landscape features that comprise the Illawarra Escarpment. The existence of residential development such as Mount Kembla village in areas with escarpment landform characteristics further complicates the process. In particular, in the north of the Wollongong LGA there is typically a steep transition from the escarpment and the coastal plain, whereas the south has significant areas of rolling foothills comprising elevated benches of relatively flat land. No single elevation represents where the coastal plain ends and the escarpment begin. The boundary of the Illawarra Escarpment has been defined differently in:	Editorial change for clarity.
2.6	Council has limited direct control of outcomes on the Illawarra Escarpment due to its minor status as a land owner on the escarpment and the limitations of its legislative power. The primary influence of Council on the Illawarra Escarpment is its role in developing and implementing local planning controls. Beyond land use planning, Council has the capacity to work with land owners within the escarpment as well as the broader community to achieve the vision of this escarpment management plan.	<p>Council has limited direct control of outcomes on the Illawarra Escarpment due to its minor status as a land owner on the escarpment and the limitations of its legislative power. The primary managers of escarpment land are the National Parks and Wildlife Service (approximately 29% of the escarpment), and the many private landholders (approximately 60% of the escarpment).</p> <p>The influence of Council on the Illawarra Escarpment is confined to its role in developing and implementing local planning controls and working with land managers within the escarpment as well as the broader community. The limited ability of Council to directly affect escarpment management is an underlying assumption in the preparation of this plan.</p> <p>Although Council is limited in its ability to directly control outcomes on the Illawarra Escarpment, the content of this plan provide the basis for Council, land managers and the community to work in partnership to maintain and improve the escarpment as a natural backdrop to the city, as well as encompassing areas of high conservation value and rich</p>	Additional text to provide better explanation of the role of Council in escarpment management.

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3.2	<p>presentations on the escarpment plan at each Neighbourhood Committee (10) during the development of the draft escarpment plan; presentations to the Urban Development Institute of Australia and the West Dapto Rural Ratepayers Association; workshops (3) conducted by WCC in the north, centre and south of the City; workshops (3) independently facilitated in the north, centre and south of the City; two (2) letters were sent by Council to all escarpment landholders during the exhibition period; the first informing them of the existence of the plan, the second identifying the main issues addressed in the plan and redressing some of the misinformation spread with the community (particularly in the northern suburbs); three (3) public meetings were attended by Council staff and discussions were held with the community at these meetings; over 30 site meetings were held with landholders; meetings were held with stakeholders including: Rural Ratepayers (11), UDIA (4), Forbes Rigby (4), landholders (35) and BHP (3); the media coverage of the development and exhibition of the draft plan was exhaustive, with stories in all media forms, TV, Radio and Newspaper (over 30 stories); 'listening posts' were staffed and a vale display prepared summarising the plan at major shopping centres throughout the city during the draft plan exhibition period; and State ministers were briefed on 5 occasions.</p>	<p>cultural heritage. Deleted</p>	<p>Deleted based on the feedback that the draft contained too much background information.</p>
3.2.1	<p>The group has focussed on reviewing and updating the IESMP in 2014.</p>	<p>In 2014, the group has focussed on reviewing and updating the IESMP. The group will continue to meet on an as needs basis.</p>	<p>The EPRG has moved away from the bi-monthly meeting schedule following the development of IESMP 2015.</p>
3.3	<p>Table 1. Initial translation of Wollongong LEP 1990 zones to the new standard template.</p>	<p>Deleted</p>	<p>Not necessary.</p>
3.6.1	<p>Mines that are no longer active and have been rehabilitated are sometimes suitable for redevelopment. Since 2006, mine redevelopment options in the escarpment have been considered in light of the objectives of the IESMP 2006.</p> <p>Although mining has brought significant economic benefit to the Wollongong LGA, the mining of coal has also involved the generation of waste material and as yet unknown impacts on underground water quality and quantity on the escarpment. The legacy of mining activities remains a management issue for the escarpment.</p>	<p>The Illawarra Escarpment State Conservation Area (IESCA) was established in 1980 following an initial donation of land from Australian Iron and Steel Pty Ltd (now BHP Billiton). Mines that are no longer active and have been rehabilitated are sometimes suitable for redevelopment. Since 2006, mine redevelopment options in the escarpment have been considered in light of the objectives of the IESMP 2006.</p> <p>Mining has brought economic benefits to the Wollongong LGA. Mining companies currently contribute towards the active management of the Illawarra Escarpment through weed, bush fire and pest management. The Illawarra Escarpment State Conservation Area has also been established above mine sites, where the surface is managed by the NPWS, but the underlying resources are owned by the coal companies.</p> <p>Current mining activity is largely regulated by the state government.</p>	<p>Changed based on feedback from Illawarra Coal and consultation with state government agencies.</p> <p>Additional text for clarity.</p>

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		Current mining operations are regulated to ensure that activities do not lead to significant environmental impacts.	
3.6.2	Most recently, planning of West Dapto has taken precedence over the escarpment where the study areas have overlapped, although visual and ecological constraints have been integrated into the consideration of West Dapto zonings and controls.	As the rezoning and development of West Dapto progresses, the interface between the escarpment and West Dapto will need to be carefully managed.	Reflects the focus of escarpment planning in the West Dapto periphery.
4.2.4		Further support from all levels of government is required to realise an Illawarra Escarpment Walking Track.	Additional text reflecting developments in Council's approach to the Illawarra Escarpment Walking Track
4.3	It is important that land use planning decisions protect the future potential economic value of the escarpment by not degrading its cultural and environmental values.	Although productive use of land is essential to drive investment in the active management of the Illawarra Escarpment, the environmental and cultural values (Sections 4.1–4.2) take precedence over its economic exploitation due to its significance. It is important that land use planning decisions protect the escarpment by not degrading its cultural and environmental values for economic gain.	Additional text for clarity.
5	<p>The Illawarra Escarpment is mapped in Wollongong LEP 2009 and is largely made up of environmental zones E1–National Parks and Nature Reserves, E2–Environmental Conservation, E3–Environmental Management and E4–Environmental Living.</p> <p>A number of desired future outcomes have been determined for these zones. These outcomes reflect the values described as Core, Biophysical Support for Core, Landscape Support for Core and Escarpment Interface developed in IESMP 2006. The Illawarra Escarpment Land Use Review Strategy 2007 applied the attribute mapping of IESMP 2006 to the Standard Instrument LEP zones. This study along with public exhibition of the draft Wollongong LEP 2007 informed the development of Wollongong LEP 2009 such that the current zoning is reflective of the escarpment attributes developed in the previous IESMP</p>	<p>Although the primary land use planning analysis has been completed for Illawarra Escarpment land, Council is approached from time to time with planning proposals to modify what land use is permissible within an existing zone, or to modify the existing zoning to a new zone. The land use planning section of this strategy is intended to help guide the preparation of planning proposals within the Illawarra Escarpment.</p> <p>The existing planning framework, including current strategic documents and Wollongong LEP zones present within the Illawarra Escarpment are addressed in Section 5.1. Sections 5.2–5.5 outline factors to be considered in the development of a planning proposal for Illawarra Escarpment Land. Section 5.2 provides Character Statements and Desired Future Outcomes for the primary escarpment zones. These character statements and desired future outcomes are supplementary to the Standard Instrument objectives for these zones and relate to the special nature of the Illawarra Escarpment. A range of planning mechanisms suitable for consideration in a planning proposal is presented in Section 5.3. The key constraints relevant for escarpment land are outlined in Section 5.4. Specific requirements of planning proposals are listed in Section 5.5.</p> <p>Land use planning on the Illawarra Escarpment is focused on achieving the ongoing conservation and enhancement of the Illawarra Escarpment. The Illawarra Escarpment is not seen as an area appropriate for meeting demands for urban growth. Planning proposals on the escarpment need to focus on the conservation outcome proposed for the escarpment and demonstrate how changes will provide an overall improvement to the environmental and cultural values of the Illawarra Escarpment as outlined within this plan.</p>	<p>Better context for the planning section.</p> <p>Better outline of the structure of Chapter 5.</p> <p>Better context for the planning section.</p>
5.1	The Illawarra Escarpment is mapped in Wollongong LEP 2009 and is largely made up of environmental zones E1–National Parks and Nature Reserves, E2–Environmental Conservation, E3–	The current zoning applying to escarpment land in Wollongong LEP 2009 is considered reflective of the escarpment attributes developed in the IESMP 2006. This is due to the work completed by the Illawarra Escarpment Land Use Review Strategy 2007 in applying	Text has been moved from Section 5 to Section 5.1 and has been reworded for

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	<p>Environmental Management and E4–Environmental Living.</p> <p>A number of desired future outcomes have been determined for these zones. These outcomes reflect the values described as Core, Biophysical Support for Core, Landscape Support for Core and Escarpment Interface developed in IESMP 2006. The Illawarra Escarpment Land Use Review Strategy 2007 applied the attribute mapping of IESMP 2006 to the Standard Instrument LEP zones. This study along with public exhibition of the draft Wollongong LEP 2007 informed the development of Wollongong LEP 2009 such that the current zoning is reflective of the escarpment attributes developed in the previous IESMP.</p>	<p>the attribute mapping of IESMP 2006 to the Standard Instrument LEP zones. The Illawarra Escarpment Land Use Review Strategy 2007 along with public exhibition of the draft Wollongong LEP 2007, has informed the development of Wollongong LEP 2009. The Illawarra Escarpment is mapped in Wollongong LEP 2009 and is largely made up of environmental zones E1–National Parks and Nature Reserves, E2–Environmental Conservation, E3–Environmental Management and E4–Environmental Living (Table 4).</p>	<p>clarity.</p>
5.1.1	<p>Illawarra/South Coast Regional Action Plan (2012)–Protect our local environment and community</p> <p>Wollongong 2022–Annual Plan (2014–15)–strategy 1.1.4–Annual deliverable “review the Illawarra Escarpment Strategic Management Plan”</p>	<p>The IESMP 2015 has been developed in the context of the following strategic documents (specific actions are mentioned where possible): Illawarra Regional Strategy (NSW Department of Planning, 2007) - Wollongong City Council will incorporate the planning controls recommended in the Illawarra Strategic Management Plan into its local environmental plan. [Note: completed in 2010 with the notification of the Wollongong LEP 2009 - discussed below]; Illawarra/South Coast Regional Action Plan (NSW Department of Premier & Cabinet, 2012)–Protect our local environment and community; Wollongong City Council Delivery Program 2012–17 (Wollongong City Council, 2014) 1.1.4.2–Implement priority actions from the Illawarra Escarpment Strategic Management Plan; Riparian Corridor Management Study (DIPNR, 2004).</p>	<p>Additional context.</p> <p>Omission from original draft.</p> <p>Reference update.</p> <p>Reference update.</p> <p>Omission from original draft.</p>
5.1.2	<p>The Wollongong Local Environment Plan 2009 is the relevant environmental planning instrument for the Illawarra Escarpment. Details of the relevant zones and permissible uses are summarised in Appendix E.</p>	<p>The Wollongong Local Environment Plan 2009 is currently the relevant environmental planning instrument for the Illawarra Escarpment. Details of the relevant zones and permissible uses at the time of publication are summarised in Appendix E for easy reference. The most current version of the Wollongong Local Environmental Plan can be found at www.legislation.nsw.gov.au</p>	<p>Slight rewording for clarity.</p>
5.1.2.1		<p>Table 4 summarises the area in hectares and the total proportion of the Illawarra Escarpment made up of the various Wollongong LEP 2009 zones at the time of the preparation of this document. It shows that the majority of the escarpment is made up of environmental zones.</p>	<p>Additional detail to explain the table.</p>
5.2	<p>Illawarra Escarpment Land Use</p> <p>The Wollongong LEP 2009 defines the zones and permissible uses for land within the Illawarra Escarpment area. The following section provides further detail on the intention of zones within the escarpment in order to guide the consideration of development applications and planning proposals over this land.</p>	<p>Desired Illawarra Escarpment Land Use</p> <p>The following section provides further detail on the character and desired future outcome of E2, E3 and E4 land use zones within the escarpment. These are provided primarily to guide the future zoning of land, although the statements also provide guidance to the desired management of existing zones. These environmental zones are considered the most appropriate for future land use on the escarpment. Planning proposals within the escarpment should be utilising these zones in all but exceptional cases. The E1 National Parks and Nature Reserves zone is not included as it can only apply to lands managed by</p>	<p>Slight rewording for clarity.</p>

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		<p>the NPWS.</p> <p>The Character Statements and Desired Future Outcomes are provided to help guide the preparation of planning proposals for Illawarra Escarpment land. The Character Statements and Desired Future Outcomes provide a broad indication of the characteristics of the zone as well as the expectations for its management. The following descriptions should be used to guide the choice of land use zone and management activities proposed to occur over the subject escarpment land in a planning proposal.</p> <p>The Core Escarpment, Biophysical Support for Core, Landscape Support for Core and Escarpment Interface attributes developed in IESMP 2006 underlie the Character Statements and Desired Future Outcomes (refer to Section 1.5 for definitions). However, Council has not depicted the attribute mapping of IESMP 2006 in this plan in acknowledgement that more detailed and current mapping would be generated prior to the consideration of any rezoning on the escarpment.</p>	Additional context.
5.2.1	E2–Environmental Conservation	E2–Environmental Conservation Character Statement	Slight rewording for clarity.
	<p>The principal objective of this zone is to conserve core escarpment and foothills land limiting further development of new dwellings. The Core escarpment lands should be managed for conservation purposes as either freehold title (privately owned) or under some form of protected area network or public reserve. The land that is currently freehold and which will remain so should be able to provide, where possible, a conservation buffer to the existing reserves such as the Illawarra Escarpment State Conservation Area within the escarpment and foothills. Cleared or degraded land which is of cultural or scenic value may also be included in this zone where the intention is for this land to be utilised for conservation.</p> <p>Importantly, within this zone, existing use rights enable lawfully existing dwellings to be demolished and redeveloped, and additions and alterations to be made subject to the normal Development Application process.</p>	<p>The principal objective of this zone is to protect, manage and restore areas of high ecological, scientific, cultural or aesthetic values. In the context of the Illawarra Escarpment, this means conserving Core Escarpment and Foothills land avoiding development that degrade these values. The Core Escarpment lands should be managed for conservation purposes as either freehold title (privately owned) or under some form of public reserve. The land that is currently freehold and which will remain so should be able to provide, where possible, a conservation buffer to the existing reserves such as the Illawarra Escarpment State Conservation Area within the escarpment and foothills. Cleared or degraded land which is of cultural or scenic value may also be included in this zone where the intention is for this land to be utilised for conservation of these values.</p> <p>New dwelling houses are not permitted in this zone, although existing use rights may enable lawfully existing dwellings to be demolished and redeveloped, and additions and alterations to be made subject to the normal Development Application process.</p>	Additional context.
	<p>Ecotourism type activities would need to follow principles such as no native vegetation clearing, utilising existing infrastructure (eg. roads, water supply), nil or positive impact on biodiversity, and nil or negligible visual intrusion and bushfire protection.</p>	<p>Ecotourism type activities would need to follow principles such as no native vegetation clearing, utilising existing infrastructure (eg. roads, water supply), nil or positive impact on biodiversity, and nil or negligible visual intrusion and adequate bush fire protection.</p>	Slight rewording for clarity.
5.2.1.1	Active management to enhance Category 1 & 2 watercourses and their buffer areas;	Active management to enhance watercourses and their riparian buffer areas;	Slight rewording for clarity.
	Active management to conserve areas that contain high	Active management to conserve areas that contain high biodiversity values including land	Reflection of feedback from

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	<p>biodiversity values including land mapped by OEH as Primary or Support for Primary or are identified as Endangered Ecological Communities or poorly or inadequately conserved vegetation communities;</p> <p>Provision of natural habitats for native plants and animals within the escarpment lands;</p> <p>Land use conserves areas that comprise high visual or cultural amenity eg. cliff faces, ridges and spurs;</p> <p>Land use enhances environmental and/or ecological corridors; and</p> <p>Provide for public appreciation of the escarpment environment and its cultural heritage where conservation is not compromised.</p>	<p>mapped by OEH as 'Primary' or 'Support for Primary' or are identified as Endangered Ecological Communities or poorly or inadequately conserved vegetation communities in the 2002 Bioregional Assessment of the Illawarra Escarpment and Coastal Plain (NSW National Parks and Wildlife Service, 2002c);</p> <p>Conservation of natural habitats for native plants and animals within the escarpment lands;</p> <p>Conservation of areas that comprise high visual or cultural amenity eg. cliff faces, ridges and spurs;</p> <p>Enhancement of environmental and/or ecological corridors; and</p> <p>Provision of opportunities for public appreciation of the escarpment environment and its cultural heritage where conservation is not compromised.</p>	<p>OEH.</p> <p>Slight rewording for clarity.</p> <p>Slight rewording for clarity.</p> <p>Slight rewording for clarity.</p> <p>Slight rewording for clarity.</p>
5.2.2	<p>E3–Environmental Management</p> <p>Land within E3 Environmental Management Zone has significant escarpment attributes although it is likely to be affected by disturbance typical of previous clearing such as weed infestation and the fragmentation of remnant vegetation. There is strong likelihood that this land contains sites of Aboriginal significance, particularly along riparian zones, ridge tops and spurs. It is considered that these lands provide an important 'buffer' to the integrity of the high conservation value lands and therefore need to be planned and managed to ensure that the 'buffer' status is maintained and enhanced, whilst at the same time provide for, where appropriate, residential development or productive use.</p>	<p>E3–Environmental Management Character Statement</p> <p>Land within an E3 Environmental Management Zone has significant escarpment attributes, although it is likely to be affected by disturbance from previous land use. It may be affected by weed infestation and the fragmentation of remnant vegetation. There is strong likelihood that this land contains sites of Aboriginal significance, particularly along riparian zones, ridge tops and spurs. It is considered that these lands provide an important 'buffer' to the integrity of the Core Escarpment lands and therefore need to be planned and managed to ensure that the 'buffer' status is maintained and enhanced, whilst at the same time provide for, where appropriate, residential development or productive use.</p>	<p>Slight rewording for clarity.</p> <p>Slight rewording for clarity.</p>
5.2.2.1	<p>land use provides a linkage between the coastal plain and the high conservation value lands of the escarpment</p> <p>lot size increases and density decreases along the gradient from urban lands to conservation areas, whereby a rural residential type development occurs towards the Core Escarpment areas</p>	<p>Ecological enhancement of disturbed areas</p> <p>Secure, long term financial mechanisms for ensuring ongoing management and enhancement of escarpment values;</p> <p>Vegetated (local native species) areas provide linkages between the coastal plain and the high conservation value lands of the escarpment;</p> <p>Vegetated (local native species) areas provide habitat to support Core Escarpment areas and adjoining conservation lands;</p> <p>Lot size increases and density decreases along the gradient from urban lands to conservation areas, whereby a rural residential type development occurs towards, but not within, the Core Escarpment areas;</p>	<p>Reflection of the feedback of EPRG.</p> <p>Slight rewording for clarity.</p> <p>Reflection of the feedback of EPRG.</p> <p>Slight rewording for clarity.</p>

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	low density housing or tourism development that does not interfere with the visual or cultural values of the land or increase the bushfire risk	Tourism development that do not degrade the biodiversity, visual or cultural values of the land or increase the bush fire risk;	Slight rewording for clarity.
	housing allows a neutral or beneficial effect on the visual and cultural values of the land	Dwelling houses that leads to a neutral or beneficial effect on the biodiversity, visual and cultural values of the escarpment through appropriate siting of development and active enhancement of escarpment values;	Slight rewording for clarity.
	continuation of existing agricultural activities that have a neutral or beneficial effect on the visual and cultural values of the land and do not interfere with the high conservation values of adjoining lands	Agricultural activities have a neutral or beneficial effect on the biodiversity, visual and cultural values of the land and do not degrade the high conservation values of adjoining lands;	Slight rewording for clarity.
	actively contribute to the management of pest and weed species, rehabilitation of native vegetation in previously cleared areas outside the APZ, and rehabilitation of riparian corridors	Residents actively contribute to the management of pest and weed species, rehabilitation of native vegetation in previously cleared areas outside the APZ, and rehabilitation of riparian corridors.	Slight rewording for clarity.
5.2.3	E4–Environmental Living Importantly too, consent would not be issued until a Planning Agreement including an environmental management plan for the remainder of the core land on the property or properties affected was developed and approved by the appropriate authority and that conservation agreements were established for the ongoing preservation and revegetation of the nearby core land	E4–Environmental Living Character Statement Importantly, Council would need to be satisfied that the planning proposal involving the zoning of land to E4 would ensure the ongoing improvement of escarpment values overall and particularly on Core Escarpment land.	Slight rewording for clarity. Reflects internal feedback from Strategic Planning section.
5.2.3.1	financial mechanisms for ensuring ongoing management and enhancement of escarpment values a low density of housing or tourism development that does not interfere with the visual or cultural values of the land or increase the bushfire risk housing that allows a neutral or beneficial effect on the visual and cultural values of the land residents contribute to the protection and enhancement of the high conservation attributes, visual amenity and cultural values of adjoining lands tourism and recreation that allows enjoyment of the high conservation attributes and cultural values of the escarpment without reducing those values	Secure, long term financial mechanisms for ensuring ongoing management and enhancement of escarpment values; Low density housing or tourism development that does not degrade the biodiversity, visual or cultural values of the land or increase the bush fire risk; Housing that leads to a neutral or beneficial effect on the biodiversity, visual and cultural values of the escarpment through appropriate siting of development and active enhancement of escarpment values; Residents contribute to the protection and enhancement of conservation areas, visual amenity and cultural values of adjoining escarpment lands; Tourism and recreation development allows enjoyment of the high conservation attributes and cultural values of the escarpment without reducing those values;	Reflection of feedback from EPRG. Slight rewording for clarity. Reflection of feedback from EPRG. Slight rewording for clarity. Slight rewording for clarity.

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	agricultural activities that have a neutral or beneficial effect on the visual and cultural values of the land and do not interfere with the high conservation values of adjoining lands	Agricultural activities have a neutral or beneficial effect on the biodiversity, visual and cultural values of the land and do not degrade the high conservation values of adjoining lands; Residents actively contribute to the management of pest and weed species, rehabilitation of native vegetation in previously cleared areas outside the APZ, and rehabilitation of riparian corridors.	Slight rewording for clarity. Reflects internal feedback from Strategic Planning section
5.3		A variety of planning mechanisms exist for ensuring improved outcomes for the Illawarra Escarpment result from any additional development. Which mechanisms are most appropriate will need to be negotiated with Council and relevant state government agencies on a case by case basis. Below are descriptions of some of the relevant planning mechanisms available to achieve improved environmental outcomes on the Illawarra Escarpment. For guidance on the preparation of a planning proposal, see section 5.5.	Reflects internal feedback from Strategic Planning section.
5.3.1	<p>Planning Agreements (PA)</p> <p>Where a proposal contributes to achieving the desired outcomes of this plan, a Planning Agreement can be established with Council to ensure that the agreed approach is carried through to the development assessment phase. A Planning Agreement will contain the findings of studies associated with the proposal and associated commitments from the developer.</p> <p>The consideration of such agreements should be undertaken with a strong emphasis on assessing:</p> <ol style="list-style-type: none"> 1. the conservation benefit of proposal; and 2. The visual benefit of proposal. <p>In weighting the merits of a proposal, additional questions should be considered:</p> <ul style="list-style-type: none"> · Are conservation measures short or long term? · Is any improvement likely to be maintained? · Is there a possibility of a change of use subsequent to approval which is contrary to achieving the benefits of the proposal? 	<p>Planning Agreements (PA)</p> <p>Where Council considers a planning proposal has appropriate merit and contributes to achieving the desired conservation outcomes of this plan, a Planning Agreement can be established with Council to ensure that the agreed approach is carried through to the development assessment phase. A Planning Agreement will contain the findings of studies associated with the proposal and commitments from the developer including any conservation agreements. Due to the high cost of preparing a Planning Agreement, it is anticipated that a planning proposal will make a commitment to preparing such an Agreement following a successful Gateway determination.</p>	<p>Reflection of feedback from OEH.</p> <p>Moved to a later section in Chapter 5.</p>
5.3.2	Where high conservation value land remains in private ownership, conservation of escarpment land should be legally ensured through a Voluntary Conservation Agreement or similar mechanism. A range of legal agreements exist to guarantee the future conservation of land.	Where escarpment land remains in private ownership and an improved conservation outcome is desired, a BioBanking Agreement or similar mechanism may be the best way of ensuring that the land is actively managed into the future. A range of legal agreements to guarantee the future conservation of land are presented below.	Reflection of feedback from OEH.
5.3.2.1	<p>BioBanking Credit Site</p> <p>BioBanking is a market-based offsetting program administered by the Office of Environment and Heritage. A BioBanking credit site</p>	<p>BioBanking Agreement</p> <p>BioBanking is a market-based offsetting program administered by the Office of Environment and Heritage. A BioBanking agreement provides a high level of permanent</p>	Reflection of feedback from OEH. Has been moved from Section 5.3.2.3 to Section 5.3.2.1.

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5.4.6	Sites without access to town water, sewer or power can potentially impact on the environmental values of the escarpment through pollution	Sites without access to town water, sewer or power can potentially impact on the environmental values of the escarpment through pollution or the need to bring in service to service the development	section. Slight rewording for clarity.
5.5		<p>Planning Proposal Requirements</p> <p>For detailed guidance on the preparation of planning proposals, please refer to “A guide to preparing planning proposals” (Department of Planning and Infrastructure, 2012). The following requirements are provided to guide the preparation of planning proposals within the Illawarra Escarpment.</p> <p>Although the complexity of proposals may vary, as a minimum, Council requires reports addressing the possible impacts of the proposal on:</p> <ol style="list-style-type: none"> 1. The Visual Quality of the Illawarra Escarpment and its precincts; 2. Bush fire Hazard and associated vegetation management; 3. Heritage values of the site; 4. Geotechnical stability of the site; and 5. Biodiversity. <p>All studies will need to be integrated in order for Council to consider the proposal holistically. For example, the bush fire, geotechnical and heritage management requirements will need to be considered as part of the biodiversity and visual assessments of the proposal.</p> <p>Further, the planning proposal should provide evidence of how the environmental and cultural values of the escarpment will be conserved and enhanced through the proposal.</p> <p>The consideration of planning proposals by Council will focus on assessing:</p> <ol style="list-style-type: none"> 1. The basic planning viability of the proposal; 2. the conservation benefit of the proposal; and 3. The visual benefit of the proposal. <p>In weighing the merits of a proposal, additional questions should be considered:</p> <ul style="list-style-type: none"> • Are conservation measures short or long term? • Is any improvement likely to be maintained? • Is there a possibility of a change of use subsequent to approval which is contrary to achieving the benefits of the proposal? 	Moved from previous location in the document.
5.5.2		<p>5.5.2 Conservation Benefit</p> <p>Planning proposals should identify conservation measures that are lasting. Examples of lasting conservation measures include the dedication of land to the National Parks and Wildlife Service or a Biobanking Agreement ensuring ongoing funding of conservation works on escarpment land. A Vegetation Management Plan alone will in most cases not</p>	New section reflecting the feedback of EPRG.

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5.5.3	<p>The Illawarra Escarpment Land Use Review Study utilised an approach to land capacity assessment based around an environmental envelope (environmental footprint) over the land, which was determined by reference to environmental constraints such as; size (and length) of area currently cleared relative to slope, angle of view line, ridgelines, cultural heritage items, visual analysis, potential supplementary planting, access (transport corridors), width of clearing (interruption to canopy), bushfire risk, riparian corridors, services (on site detention etc.), water cycle management, stability matters to name but a few.</p>	<p>be sufficient to demonstrate a conservation benefit.</p> <p>The approach of planning escarpment land use based on the existing landscape attributes of the land that was developed in the IESMP 2006 was further refined by the Illawarra Escarpment Land Use Review Strategy 2007 (HLA–Envirosciences, 2007). The Illawarra Escarpment Land Use Review Strategy utilised an approach to land capacity assessment based around an environmental envelope (environmental footprint) over the land, which was determined by reference to environmental constraints such as; size (and length) of area currently cleared relative to slope, angle of view line, ridgelines, cultural heritage items, visual analysis, potential supplementary planting, access (transport corridors), width of clearing (interruption to canopy), bush fire risk, riparian corridors, services (on site detention etc.), water cycle management and stability matters (HLA–Envirosciences, 2007).</p> <p>The method involves a greater consideration of the preservation and enhancement of natural and cultural values than a standard constraints analysis methodology as may be applied in an urban release area context. The environmental envelope methodology should be applied as a foundation to planning proposals within the Illawarra Escarpment.</p>	<p>Slight rewording for clarity. Section 5.5.1 Environmental Envelope now Section 5.5.3.</p> <p>Additional text for clarity.</p>
5.5.4	<p>For a proposal within the Illawarra Escarpment area to be considered by Council, it must address the following criteria</p> <ol style="list-style-type: none"> 1. A gradation and increasing lot size and reduced density from high density urban development to no development from east to west. 2. Riparian corridors are to be applied consistent with the recommendations contained within the Riparian Corridor Management Study (Department of Infrastructure Planning and Natural Resources, 2004). 3. No clearing of native vegetation for the location of a dwelling site, provision of services/infrastructure or for the implementation of bushfire controls/location of Asset Protection Zones (APZs). 4. No overt increase in the density of development so as to retain rural atmosphere (dwellings to be hidden or clustered). 	<p>In addition to the basic requirements of the Department of Planning and Environment, for a planning proposal within the Illawarra Escarpment area to be supported by Council for Gateway determination, it must satisfactorily address the following criteria:</p> <ol style="list-style-type: none"> 1. Demonstrate the environmental envelope methodology (Section 5.5.2) has been applied to the site. 2. Where the site is adjacent to existing urban development, increase lot size and reduce density of development closer to the escarpment. 3. Riparian corridors are to be applied consistent with the recommendations contained within the Riparian Corridor Management Study (Department of Infrastructure Planning and Natural Resources, 2004). Office of Water guidelines for riparian corridors on waterfront land is not relevant due to the Illawarra Escarpment not being an urban release area. 4. The clearing of native vegetation on the escarpment is to be avoided. This includes; for the location of a dwelling site, provision of services, access, on-site effluent management, infrastructure or for the implementation of bush fire controls including Asset Protection Zones (APZs). Where minor native vegetation removal is required, it needs to be justified in terms of significant improved outcomes for the environmental and cultural values of the Illawarra Escarpment (Sections 4.1–4.2). 5. Retain the rural atmosphere of the escarpment through avoiding visible development and maintaining low development density. Where higher densities are required to achieve conservation and enhancement of the escarpment, dwellings need to be hidden and 	<p>Section 5.5.2 Assessment Criteria is now Section 5.5.4. Slight rewording for clarity.</p> <p>Reflects internal feedback from Strategic Planning section.</p> <p>Slight rewording for clarity.</p> <p>Reflects internal feedback from Environment Planning section.</p> <p>Reflects internal feedback from Strategic Planning section.</p>

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		clustered to avoid degrading the visual quality of the escarpment.	
		6. Where possible, avoid creating additional lot boundaries through existing native vegetation or riparian areas.	Reflection of feedback from EPRG.
	8. Development needs to contribute to the improved management of adjoining high conservation value lands through permanent, legally binding mechanisms.	7. Contributes to the improved management of escarpment lands through permanent, legally binding mechanisms (Section 5.3).	Reflection of feedback from EPRG.
	9. Provide vegetated buffers to adjoining high conservation value land	8. Conserve, improve and where possible extend existing vegetation on the site. This may include conservation and improvement of vegetation of relatively low biodiversity value in order to provide a buffer to nearby high biodiversity escarpment land such as that mapped as 'Primary' in the NPWS Bioregional Assessment of the Illawarra Escarpment and Coastal Plain 2002 (NSW National Parks and Wildlife Service, 2002c).	Reflection of feedback from OEH.
	10. Provide for increased connectivity of vegetation and enhance existing vegetation corridors	9. Conserve, improve and where possible extend existing vegetation to provide for increased connectivity and enhance existing vegetation corridors such as mapped in the Illawarra Biodiversity Strategy 2011.	Reflects internal feedback from Environment Planning section.
	11. Protect, maintain and enhance flora and fauna species and habitats of importance	10. Protect, maintain and enhance flora and fauna species and vegetation communities of the Illawarra Escarpment.	Slight rewording for clarity.
	13. Provide justification for development in terms of specific conservation initiatives proposed to enhance the escarpment for the long term.	11. Describe how the escarpment values of the site will be improved in terms of specific and secure conservation initiatives and outcomes that will enhance the Illawarra Escarpment for the long term.	Reflection of feedback from EPRG.
	14. Aboriginal and European heritage must be investigated for all sites within the escarpment	12. A report must be submitted to Council assessing Aboriginal and Non-Indigenous heritage values on the site due to the heritage significance of the Illawarra Escarpment (Section 5.3.3). A separate report may be required for consideration of Aboriginal and Non-Indigenous cultural heritage.	Reflects internal feedback from Heritage Officer.
	15. Where a heritage site is to be affected, development may be acceptable if it allows its preservation in situ, or where this is impractical, its investigation and recording.		Deleted as this detail is dealt with previously in Section 5.3.3.
	16. Development will only be acceptable in areas of archaeological potential if proper evaluation of the archaeological implications of the proposed development has been undertaken and taken into account.		
		13. A visual impact assessment must be prepared consistent with the methodology presented in the Visual Quality Analysis of the Illawarra Escarpment 2006 (DSB Landscape Architects, 2006).	Reflects internal feedback from Strategic Planning section.
	17. Locate development with full consideration of its visual	14. Locate proposed development with full consideration of its visual context within a	Slight rewording for clarity.

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	context within a precinct. Proposals should conserve or enhance the scenic attributes of its precinct	precinct. Proposals should conserve or enhance the scenic attributes of its precinct.	
	22. Subdivision on bushfire prone land must be designed to site future dwellings away from ridge tops and other steeply sloping land (>15%). This is especially relevant to upslope lands, within saddles or narrow ridge crests.	19. A bush fire assessment must be submitted consistent with the Planning for Bush Fire Protection 2006 (Rural Fire Service, 2006).	Reflects internal feedback from Strategic Planning section.
	23. Subdivisions should provide an efficient and safe road network which minimises potential bottlenecks and provides for satisfactory access and manoeuvring of fire fighting vehicles.		Deleted due to these issues being covered by Planning for Bush Fire Protection 2006.
	24. Demonstrate there are sufficient water resources for domestic and firefighting purposes.		
	26. Avoid isolated development at risk from unstoppable bushfires.	20. Bush fire assessments must consider the possible effects of the 10/50 Vegetation Clearing Code on vegetation.	Reflection of feedback from OEH.
		21. A geotechnical assessment must be submitted due to the known geotechnical instability of the Illawarra Escarpment.	Reflects internal feedback from Strategic Planning section.
	27. Plant appropriate vegetation to improve the stability of high geotechnical risk areas.	22. Where revegetation is required to improve the stability of high geotechnical risk areas, plant local native vegetation associated with the vegetation type present on the site.	
	25. Limit exposure where possible to bushfire hazard and limit development in areas of instability or geotechnical risk.	23. Avoid the exposure of development to areas of instability or geotechnical risk.	Reflects internal feedback from Environment Planning section.
5.6		<p>5.6 Development Assessment</p> <p>In addition to Planning Proposals, Council is required to assess Development Applications for new development in the Illawarra Escarpment, including new or replacement dwelling houses, tourist developments, agriculture and recreation facilities. Council also comments on Major Project Applications exhibited by the State for mining operations.</p> <p>In the assessment of Development Applications, Council assesses the application against:</p> <ul style="list-style-type: none"> • The Wollongong LEP 2009—including land use definition, zoning, lot size and clause 7.8 Illawarra Escarpment area conservation; • The Wollongong DCP 2009—various chapters including B6 Development in the Illawarra Escarpment; • Any relevant State Environmental Planning Policy, state policy or guidelines; and The Illawarra Escarpment Strategic Management Plan 2015. 	Additional section to clarify the difference between planning proposals and DA considerations.

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6.2.1.3		The Heritage Assessments conducted between 2003 and 2008 contain detailed records of heritage items and natural heritage values in the escarpment. These items are included in the current review of the heritage register and are anticipated to form a component of the ongoing monitoring of the state of heritage items on the escarpment.	Text from the Heritage Register and Heritage Sections has been combined into Section 6.2.1.3.
6.3	Although Council's direct influence on the state of the escarpment is limited by our small level of land ownership in the escarpment, existing legislative powers and budget, a range of actions have been identified to be implemented in response to the pressures on the escarpment.	Although Council's direct influence on the state of the escarpment is limited by its small level of land ownership in the escarpment and existing legislative powers, a range of actions have been identified to be implemented in response to the pressures on the escarpment in Section 6.3.4.	Slight rewording for clarity.
6.3.1.2	<p>The proliferation of weeds in disturbed areas of the escarpment is a major management challenge for the Illawarra Escarpment. The National Weed Strategy is based on seven guiding principles:</p> <p>6.3.1.2.1 Illawarra District Noxious Weeds Authority</p> <p>Wollongong, Shellharbour and Kiama Councils established the Illawarra District Noxious Weeds Authority (IDNWA) in 1992 as a means of better managing noxious weeds across the three local government areas. The IDNWA is responsible for undertaking weed control measures on Council and some Crown land as well as working with private landholders to manage weeds across the landscape. The IDNWA has the authority to direct private landowners to undertake weed control when necessary.</p> <p>The IDNWA is Council's primary mechanism for addressing weed issues at a landscape level, however, the IDNWA prioritises control of noxious weeds. Many weeds which negatively affect the escarpment are not listed as noxious. It is a major challenge for Council to address these weeds due to the cost of control and the difficulty in attracting external funding for control.</p>	<p>The proliferation of weeds in disturbed areas of the escarpment is a major management challenge for the Illawarra Escarpment. The occupier of escarpment land (whether public or private) has responsibilities for addressing weed management and the failure to address weed issues can result in penalties under the Noxious Weeds Act 2003.</p> <p>The national approach to weed management is outlined in the seven guiding principles of the National Weed Strategy:</p> <p>The Noxious Weeds Act 1993 classifies weeds as:</p> <p>Class 1 State Prohibited Weeds Plants that pose a potentially serious threat to primary production or the environment and are not present in the State or are present only to a limited extent.</p> <p>Class 2 Regionally Prohibited Weeds Plants that pose a potentially serious threat to primary production or the environment of a region to which the order applies and are not present in the region or are present only to a limited extent.</p> <p>Class 3 Regionally Controlled Weeds Plants that pose a serious threat to primary production or the environment of an area to which the order applies, are not widely distributed in the area and are likely to spread in the area or to another area.</p> <p>Class 4 Locally Controlled Weeds Plants that pose a threat to primary production, the environment or human health, are widely distributed in an area to which the order applies and are likely to spread in the area or to another area.</p> <p>Class 5 Restricted Plant that is likely, by their sale or the sale of their seeds or movement within the State or an area of the State, to spread in the State or outside the State.</p> <p>The primary means for Council to address weed management at a landscape scale is through the Illawarra District Noxious Weeds Authority (IDNWA). Wollongong, Shellharbour and Kiama Councils established the IDNWA in 1992, as a means of better managing noxious weeds across the three local government areas. The IDNWA is responsible for undertaking weed control measures on Council and some Crown land as well as working with private landholders to manage weeds across the landscape. The IDNWA has the authority to direct landowners to undertake weed control when necessary.</p>	<p>Reflection of feedback from the Illawarra District Noxious Weeds Authority.</p> <p>Section 6.3.1.2.1 heading removed and new text incorporated into 6.3.1.2 as a reflection of feedback from the Illawarra District Noxious Weeds Authority.</p>

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	<p>Managing weeds through land use planning Establish when weed management can be considered 'exempt development'. Integrate weed management into environmental management plans and land management agreements. Priorities for weed management Implement weed control at priority locations within the Illawarra Escarpment Prevention of weeds Reduce disturbance Integrate pest control efforts Implement regeneration programs on burnt land Integrate weed management in mine rehabilitation Restrict the sale of invasive weeds Raise public understanding of weed species. Establish hygiene protocols to reduce the spread of weeds. Managing existing infestations Assess the impact and extent of weeds Determine priorities Conduct best practice weed control Monitor and evaluate weed control</p>	<p>The IDNWA prioritises the eradication or control of new and emerging high risk weed species (Class 1 and 2 species as defined by the Noxious Weeds Act 1993). Class 3 noxious weeds are given the second highest priority. Control of class 3 noxious weeds aims to contain the spread and reduce the area and impact of these weeds. Widespread and common weeds (class 4) are prioritised according to where control benefits will be greatest and the where the IDNWA has the resources to adequately address the weed issue.</p> <p>Council conducts weed management as part of its management of natural areas, utilising contractors and supporting Bushcare volunteers. However, these natural area sites are generally located outside of the IESMP2015 area.</p> <p>Table 5. The Strategic Weed Management Plan for the Illawarra Escarpment 2006 identified strategies and actions for addressing weed management on the escarpment. These actions have been refined by the Illawarra District Noxious Weeds Authority and are listed below.</p>	<p>New table added as a reflection of feedback from the Illawarra District Noxious Weeds Authority.</p>
6.3.1.3		<p>Following from an action in the IESMP 2006, Council developed a Vertebrate Pest Animal Management Policy in 2010. A range of pest species are considered under this policy. Deer have been identified as a significant pest species on escarpment land. In 2011, Council supported the establishment of the Northern Illawarra Wild Deer Management Program (NIWDMP), and in 2013, a draft Regional Deer Management Strategy. The NIWDMP is coordinated by the South East Local Land Services and involves the landscape wide control of deer utilising professional pest controllers. The program is scheduled to operate until 2015, with maintenance control involving landowner and reduced contractor management to occur on an ongoing basis. The program has been successful at reducing deer populations and impacts within the program target areas.</p> <p>Other vertebrate pest species affecting biodiversity in the Illawarra Escarpment include foxes and feral cats. Council is yet to produce pest management plans for these species although it is anticipated that these plans will be developed over coming years. Council continues to support the Animal Welfare League to implement feral cat management in the Wollongong LGA.</p>	<p>Updated based on latest pest management information.</p> <p>Extra mention of feral cats following exhibition feedback.</p>
6.3.1.5.1		The management of Asset Protection Zones has the potential to undermine the	Reflection of feedback from

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		biodiversity and visual values of the Illawarra Escarpment. APZs need to occur in adequately sized existing cleared areas that are not targeted for biodiversity enhancement. The location of APZs within existing cleared areas is discussed in more detail in Section 5 of this plan.	OEH.
6.3.4	This action plan has been developed in order to assist Council to progress the objectives of the plan utilising available resources. It is anticipated that the Action Plan will be utilised to guide Council actions over the next five years and then be subject to review along with a future update to the IESMP. Actions have been developed in three key themes:	This action plan has been developed in order to assist Council to progress the objectives of the plan utilising available resources. The IESMP 2015 is considered a Supporting Document to Council's Integrated Planning and Reporting Framework. It is anticipated that the Action Plan will be utilised to guide Council actions over the next five years and then be subject to review along with a future update to the IESMP. Actions have been developed in three key themes:	Additional text included to reflect of Council policy on Supporting Documents.
Various	Various Actions	Change from 'Leader' to 'Initiator/Facilitator'.	OEH feedback about the role of Council.