













Biodiversity Strategy

May 2006

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List of Abbreviations

CMA – Catchment Management Authority
DA – development application
DCP – development control plan
DEC – Department of Environment and Conservation (NSW)
NPWS – National Parks and Wildlife Service (NSW)
DNR – Department of Natural Resources (NSW)
DOP – Department of Planning (NSW)
EP&A – *Environment Planning and Assessment Act 1979* (NSW)
EPBC (Act) –*Environmental Protection and Biodiversity Conservation Act 1999* (Commonwealth)
ESD – Ecological Sustainable Development
LEP – local environment plan
LGA – local government area
POM – Plan of Management
RFS – NSW Rural Fire Service
SOP – standard operating proceedure
TSC (Act) – *Threatened Species Conservation Act 1995*(NSW)
ROTAP – Rare or Threatened Australian Plant
KC – Ku-ring-gai Council
BGHF – Blue Gum High Forest
STIF – Sydney Turpentine Ironbark Forest
DIPNR – Department of Infrastructure Planning and Natural Resources

1. Purpose of Strategy

Biodiversity encompasses all aspects of our Local Government Area, both natural and human landscapes, including private lands, lands managed by other State and Commonwealth Government bodies and those in the care and control of Council.

The purpose of this strategy is to provide a strategic framework for the management and conservation of local biodiversity in natural and urbanised landscapes at the local level and where relevant in the regional context.

1.1 Objectives

The objectives of this Strategy are to:

- Prevent loss of local native biodiversity on public and private lands by eliminating or ameliorating threatening processes
- Protect, enhance and where appropriate increase local biodiversity on public and private lands
- Protect and enhance aquatic and terrestrial ecosystems and habitats and connectivity between reserves
- Increase awareness of biodiversity and its values within our community and Council
- Encourage and maintain active and effective community, government and other stakeholder partnerships with Council to better manage biodiversity
- Extend and seek further opportunities and partnerships with other statutory authorities and non-government organisations to help maintain or enhance regional biodiversity.

1.2 Statutory and regulatory basis for protecting biodiversity

The role of local government in biodiversity conservation and management is recognised in various Commonwealth and State legislation, policies and planning instruments. Specifically Section *8 (ii) of the Local Government nemnt Act 1993* requires Council to properly manage, develop, protect, restore, enhance, and conserve the environment of the area for which it is responsible. Further to this, the Act requires….

> *…councils, councillors and council employees to have regard to the principles of ecologically sustainable development in carrying out their responsibilities.* (Section *7). (Ecologically sustainable development (ESD) is defined as the Conservation of biological diversity and ecological integrity… [s 201(1)]).*

Prevent Loss

Protect & Enhance

Public & Private Lands

Aquatic & Terrestrial Ecosystems

Connectivity

Increase Awareness

Stakeholder Partnerships

Regional Biodiversity

Key Commonwealth, State and Local Government legislation and planning instruments relevant to biodiversity management to consider include:

Commonwealth / Federal

- *Environmental Protection and Biodiversity Conservation Act 1999*
- The *National Local Government Biodiversity Strategy* 1998
- 2004-2007 National Biodiversity and Climate Change Action Plan, Commonwealth of Australia 2004
- The National Strategy for the Conservation of Australian Biodiversity 1996

NSW

- The NSW Biodiversity Strategy 1999
- *Threatened Species Conservation Act 1995*
- State Environmental Planning Policy No 19 – Bushland in Urban Area (SEPP 19)
- *Environmental Planning and Assessment Act 1979*
- *National Parks and Wildlife Act 1974*
- *The Protection of the Environment Operations Act 1997*
- *Water Management Act 2000*

Local

- Ku-ring-gai Council Open Space Strategy 2005
- Ku-ring-gai Council Bushland Reserves Plan of Management 2006
- Ku-ring-gai Council Fauna Management Policy 1998
- Ku-ring-gai Council Riparian Policy 2004
- Ku-ring-gai Council Generic Parks Plan of Management 2003
- Ku-ring-gai Counci Tree Management Policy 2006 (draft)

1.3 Background and context

Biodiversity – what is it?

Biodiversity is "the variety of life forms, the different plants, animals and micro-organisms, the genes they contain, and the ecosystems they form. It is usually considered at three levels: genetic diversity, species diversity and ecosystem diversity."[1]

> ***Genetic diversity*** refers to the variety of genetic information contained in all individual plants, animals and micro-organisms.
> ***Species diversity*** refers to the variety of species on Earth. It is usually a measure of the number of species and their relative abundance for a given area at a given point in time.
> ***Ecosystem diversity*** refers to the variety of habitats, biotic communities and ecological processes. An ecosystem consists of plant, animal, fungal and micro-organism communities and the associated non-living environment interacting as an ecological unit.[2]

Context

The Ku-ring-gai local government area (LGA) covers approximately 84 square kilometers. This includes over 1,100 ha in Council bushland reserves, approximatley 300 hectares developed open space which includes 42 sports grounds, 148 urban parks, 8 public gardens, 2 public and 4 private golf courses. Ku-ring-gai also contains portions of three National Parks

(Garrigal, Lane Cove and Ku-ring-gai Chase) which total around 2,800 ha. Within our LGA the bushland-urban interface is a major factor defining our character and influencing biodiversity.

Our Resources

Ku-ring-gai has a large amount of urban / bushland interface to manage including:

1. Number of properties directly fronting bushland reserves and Council bushland reserves 2449
2. Length of interface between private housing areas and Council bushland reserves 92 km
3. Length of interface between developed areas and bushland - all land tenures 160 km and Council bushland reserves only is 121 km

NB. Figures calculated as November 2005

Even though Ku-ring-gai is a largely urbanised area it contains relatively high levels of biodiversity. Table 1 lists the number of species recorded so far for various fauna types (taxa) in this area.

Our Community

Our community places a high importance on our bushland reserves and the role they play in conserving biodiversity and habitat particularly in the long-term. Most recently this was re-confirmed in the Ku-ring-gai Community Environmental Research Project Report (February 2005). When asked respondents indicated that preservation of habitat and biodiversity was one of the most important areas for action by Council.

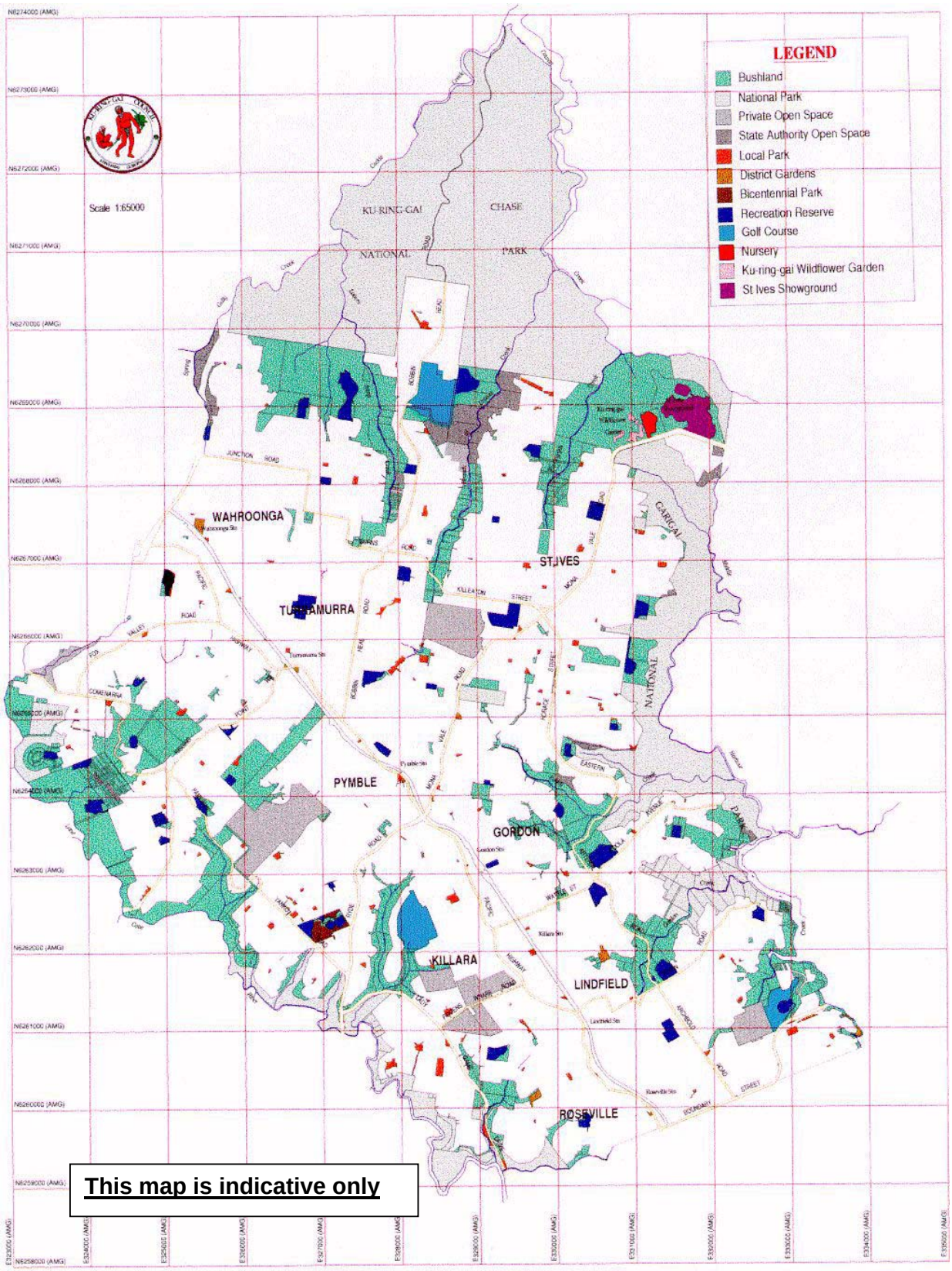
[1] Commonwealth of Australia 1996, *The National Strategy for the Conservation of Australia's Biological Diversity,* Canberra: DEST.
[2] NSW National Parks and Wildlife Service 1999, *NSW Biodiversity Strategy*
(Weblink - www.kmc.nsw.gov.au/go/natural-environment/environmental-levy/research-on-resident-attitudes)

Table 1 Biodiversity Statistics

Taxon / group	**Ku-ring-gai LGA** Total Land Area = 84 km^2
Native plants	700 plus (8.3 species/ km^2)
Reptiles	47
Amphibians	26
Birds	224
Mammals	42
Fungi*	170 plus
Fish (marine and freshwater)	34
Invertebrates* (insects, snails etc)	170 plus

NB. These figures are estimates only based on data gathered so far up to August 2005. Records date from the 1950s to 2005. See appendix 6 (Biodiversity data) for more detailed records of spcies.
* The number of species recorded and identified for these groups is likely to be much lower that the actual numbers that exist in the wild. It is estimated that about 98% of all fauna species are invertebrates such as insects and worms.

Figure 1 Map of Ku-ring-gai area of Council reserves and National Parks



1.4 Why conserve biodiversity?

The management of biodiversity is an integral part of sustainable development. Not only is it integral for environmental health but also plays a valuable role in the economic and social systems, as summarised in Figure 1.

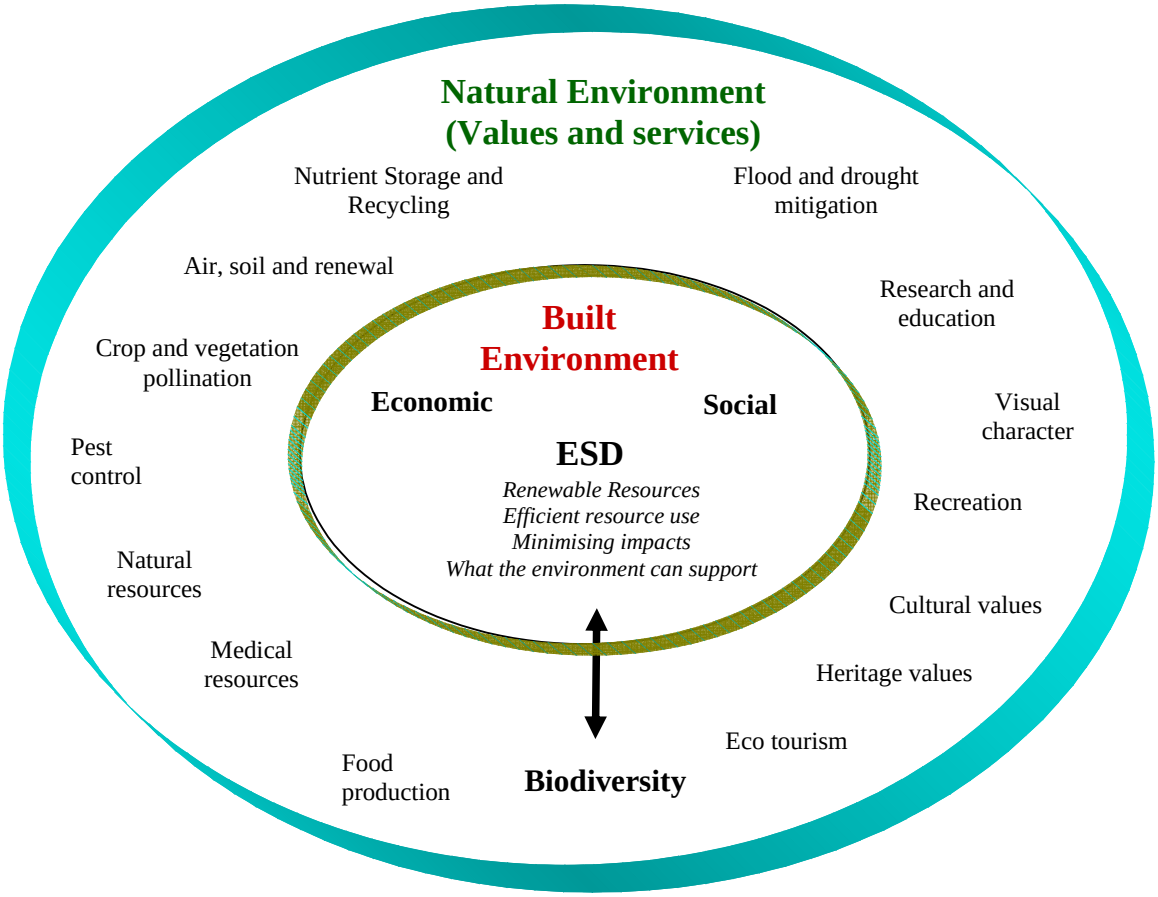


Figure 1. The relationship between biodiversity and ecologically sustainable development (ESD)

2. Guiding Principles for Biodiversity Conservation

Biodiversity conservation, like other aspects of natural systems management, is dynamic. Its integrity and ability to manage change is dependent on many variables only some of which are known. It is therefore important that biodiversity and habitats are managed in both natural area reserves such as Council bushland and National Parks and developed urban areas including: private property, roadside reserves, nature strips, public gardens, parks, golf courses, and playing fields.

Principles of the National Strategy for the Conservation of Australia's Biological Diversity (1996) include:

1. Biological diversity is best conserved *in situ.*
2. Cooperation between governments and the community is critical to the conservation of biodiversity.
3. It is vital to anticipate and prevent the causes of significant reductions in biodiversity.
4. Decisions relating to the allocation and use of resources should be efficient, equitable and transparent.
5. Lack of full knowledge should not be an excuse for postponing action to conserve biodiversity (precautionary principle).
6. The establishment of a comprehensive, representative and adequate system of ecologically viable protected areas and the sympathetic management of other areas is central to the conservation of biodiversity.
7. Traditional links between indigenious people and biodiversity should be recognised.

2.1 Threats to Biodiversity

Many of the generally recognised threats to biodiversity operate within Ku-ring-gai (see Appendix 3). The majority of threats in our LGA are directly or indirectly caused by human activities associated with urbanisation. Some of the main threats to local biodiversity identified by residents and Council include:

- encroachment and illegal clearing
- unauthorised activities such as bike track building
- excess nutrients and pollutants
- loss of remnant street trees and habitat linkages
- exotic plants and weed infestation
- feral animals and predation by domestic pets
- accelerated erosion from urban storm water
- changes to natural hydrology
- fragmentation of ecosystems and loss of habitat
- removal of bush rock, logs and plants from bushland
- increased recreation pressures
- high frequency bushfires
- fauna fatalities along roads and on power lines
- climate change
- genetic erosion / loss in small reserves caused by isolation, inbreeding and population decline.

Illegal clearing

Excess nutrients

Loss of remnant street trees

Weed infestation

Loss of habitat

Recreation pressures

Bushfires

Climate change

(Appendix 3 provides a list of threatening processes pursuant to the Threatened Species Conservation Act 1995. Also see Glossary [Appendix 1] for defition of terms).

Many of these threats can be potentially managed by both Council and the community to reduce their adverse impacts upon biodiversity within the Ku-ring-gai area.

2.2 How can we protect biodiversity

"Of all tiers of government within Australia, Council's have the greatest opportunity to interact directly with the community. This gives local government the opportunity to show leadership within the community, and to offer vital support and encouragement to local land and property owners to conserve native flora and fauna.

Local government can and should use their position to:

- Regulate land use
- Utilise available powers to influence community behaviour through implementing biodiversity friendly regulations and planning provisions.
- Promote and demonstrate environmentally, ecologically and socially responsible behaviour;
- Offer community education programs and staff training;
- Provide incentives for sustainable natural resource management on private land." (DEH 2005).

Conservation of biodiversity is also closely related to prevention of land degradation through erosion, removal of vegetation and soil structure decline. Biodiversity conservation also complements measures to protect Aboriginal cultural heritage. Maintaining biodiversity is thus also essential part of ecologically sustainable development (ESD).

The focus of this strategy is to provide direction to six core areas:

1. bushland and natural resources under the control of Council.
2. developed open space industry, public parks, gardens and sporting fields.
3. roadside vegetation and nature strips.
4. riparian zones and aquatic habitats.
5. developed and private land.
6. other public land.

Tables 2.1 to 2.6 have extensive lists of principles and actions relating to each of these six core areas. Actions written in *italics* are proposed actions to be implemented.

Table 2.1 Bushland / natural area reserves

(Actions written in *italics* are proposed actions to be implemented)

Objective / Issue	Actions / Tasks
Prevent net loss of biodiversity / genetic erosion	• Annual bush regeneration program • Bushcare Program • Annual noxious weed program • Regional fox control program • Environmental levy projects – 9 long term bush regeneration sites and feral animal control programs • Weedbusters campaign and events and state program coordination • Assessment of development application (private lands adjoining bushland reserves) • Reintroduction of local native species to suitable habitats. (EG. Backyard Buddies, Lyrebird Project with DEC) • *Research into local provenance and genetic erosion*
Regulated use of reserves	• Fire trail gate / lock upgrade • Fire trail gate signage • Removal of unauthorised bike jumps and tracks etc.
Pest species / weeds	• Annual noxious weed program • Regional fox control program • Proposed Regional indian mynah control program • Weedbusters campaign, events and state program coordination • Environmental levy projects – 9 long term bush regeneration sites and feral animal control programs
Inappropriate fire regimes	• Annual hazard reduction program – includes ecological burns • Wildfire management • Environmental assessment of annual fuel management program proposals
Remove or reduce negative impacts from urban / natural area interface	• Bushcare program • Assessment of Development Application (private lands adjoining bushland reserves)
Discourage / prevent dumping and encroachment	• Bushland education programs • Levy funded Community Environment Officers to start in early 2006 • *Requires regulatory action to complement education programs*
Discourage / prevent inappropriate recreation activities	• Track and trail maintenance program • Bushwalk brochures • Fire trail gates and signage • Levy funded Community Environment Officers to start in early 2006 • *Requires regulatory action to complement other programs*
Promote appropriate recreation activities or activities in designated areas to minimise impacts	• Bushwalking program • Bushwalk brochures • Face to Face project • Bushland Education Program • *Designated and managed mountain bike trails*
Identify and implement greater protection of biodiversity hotspots / environmentally sensitive areas	• Ku-ring-gai Flying Fox habitat restoration program (over 14 years) in Ku-ring-gai Flying Fox Reserve • Environmentally Sensitive Areas project (2001) – stage 1 mapping of significant / endangered plant communities

Exclude or reduce impacts of companion animals	• Pilot cat trapping program • Provision of dog-off leash areas in parks and sports reserves • Responsible cat owner brochures • Companion animal booklet • *Companion Animal Management Strategy (In Preparation)*
Allow for dynamic natural process by using adaptive management based on research and environmental change	• Research projects – cooperation with local Universities and supervision undergraduate and postgraduate students on projects including – rapid riparian assessment, and biodiversity and riparian buffers
Maintain current best practice into work programs to ameliorate or prevent negative impacts from works in natural area reserves	• Standard Operating Procedures • Staff vocational training • Environmental assessment (REF studies) undertaken for proposed projects as per *EP&A Act 1979* and the *Rural Fires Act 1997*
Mimimise impacts of pestices	• Use only registered pesticides for prescribed uses • Avoid spraying near waterways • *Research and use low toxity and specific pesticides* • *Discourage use of non-specific and residual pesticides*
Increase the community's knowledge and appreciation of natural areas, their benefits and what degrades them	• Bushcare program • Bushland education program
Monitoring of biodiversity	• Annual vegetation condition mapping • Annual vertebrate fauna diversity monitoring • Annual aquatic macro-invertebrate and habitat monitoring • Currently all programs done on a catchment per year basis (3 main cacthcments in KC LGA)
Develop local native seed collection protocol consistent with industry best practice and genetic conservation principles	• Council's Community Nursery and Open Space section currently reseraching draft best practice seed collection guidelines
Provenance planting and species translocation	• Develop best practice guidelines for provenance planting and translocation of flora and fauna species
Increase awareness and knowledge of land managers about threatened ecological communities and threatened species habitat on public lands including schools and universities, rail and road corridors and other public lands	• Bushcare Program • Bushland education program
Conflict between biodiversity principles, urban habitat and planting and the requirements for hazard management under the Rural Fires Act 1997	*Research and develop best practice guidelines to help resolve conflict between these two principles including identification of high conflict areas. Identifiy habitat areas where Rural Fires Act requirements do not apply.*

Table 2.2 Developed Open Space

(Actions written in *italics* are proposed actions to be implemented)

Objective / Issue	Actions / Tasks
Prevent or reduce impacts into natural areas such as nutrient runoff and mowing	• Reduced mowing programs / contracts near bushland interface • Water reclamation and reuse projects (Eg Barra Brui)
Remove and exclude planting of noxious and environmental weeds	• Weed control and maintenance programs • Adopt / implement relevant actions of Open Space Strategy 2005 • Adopt / implement relevant actions of Generic Plan of Management for Parks in Ku-ring-gai 2005
Discourage or remove pest animals	• Removal / destruction of feral bee swarms in parks and nature strips
Increase or enhance native vegetation	• Planting schedules
Enhance habitat quality	• Planting schedules • Weed control and maintenance programs • Adopt / implement relevant actions of Open Space Strategy 2005 • Adopt / implement relevant actions of Generic Plan of Management for Parks in Ku-ring-gai 2005
Manage companion animals	• Designated off-leash areas • Regulatory signage • Open Space Strategy 2005 • Adopt / implement relevant actions of Generic Plan of Management for Parks in Ku-ring-gai 2005 • Adopt / implement relevant actions of Companion Animal Management Strategy (In Preparation)
Discourage use of non-specific and residual pesticides	• Improve management practices
Rubbish bin standards to reduce food sources to feral birds in Open Space, and commercial areas	• Adopt / implement relevant actions of Open Space bin guidelines (lidded bins)

Table 2.3 Roadside vegetation / nature strips

(Actions written in *italics* are proposed actions to be implemented)

Objective / Issue	Actions / Tasks
Enhance native vegetation and increase connectivity where appropriate	• Street tree master plan
Prevent or ameliorate impacts from public and Council activities / works	• Adopt / implement relevant actions of Open Space Strategy • Adopt / implement relevant actions of Tree Management Policy
Increase green corridor and biolinks connectivity to reserves	• Canopy Replacement Program • Incorporate fauna corridor and biodiversity principles into Council's Tree Management Policy and Canopy Replacement Program
Increase community awareness of the value of nature strip vegetation for biodiversity and amenity	• Tree Nurturers Program
Control weeds	• Weed control program (reactive)

Do not plant invasive turf species along paths near bushland edges	• Mowing contracts – regular review
Mimimise impacts of pestices	• Use only registered pesticides for prescribed uses • Avoid spraying near waterways • *Research and use low toxity and specific pesticides* • *Discourage use of non-specific and residual pesticides*

Table 2.4 Riparian zones and aquatic habitats

(Actions written in *italics* are proposed actions to be implemented)

Objective / Issue	Actions / Tasks
Strengthen Riparian Policy and other relevant DCP's (38, 47) in regard to biodiversity conservation	• Appraisal of policy to its application and successful outcomes in relation to assessment of development application (December 2005)
Pursue opportunities for strategic water quality and aquatic habitat enhancement	• Environmental levy projects – 9 long term water harvesting sites
Create a greater awareness of Riparian zone value to biodiversity and environmental quality	• Bushland education programs • Face to Face Project
Further research the relationship between riparian zones, buffer zones and biodiversity to find better and more efficient ways to manage these areas	• Research projects –cooperation and supervision – riparian assessment, biodiversity and riparian buffers • Vegetation condition mapping • Vertebrate fauna diversity monitoring • Aquatic macro-invertebrate and habitat monitoring
Strategic weed and pest animal control programs	• Annual bush regeneration programs • Annual noxious weed program • Ku-ring-gai Flying Fox Habitat Restoration Program (since 1987) at Ku-ring-gai Flying Fox Reserve – In partnership with the Ku-ring-gai Bat Conservation Society • Bushcare Program • Weedbusters campaign and events and state program coordination
Prevent piping or channelisation of natural streams	• Assessment of development application (private lands adjoining bushland reserves) • Riparian Policy 2004
Remove weirs and improve in-stream fish habitat	• Study done by Fisheries NSW and Sydney CMA (Reviewing and Restoring Fish Passage in Urbanised Waterways, Sydney Catchments 2005).
Manage pest species such as Gambusia and aquatic weeds	• Aquatic weeds targeted in Annual Weeds Management Program • Joint research projects with Macquarie University
Promote native fish species for ponds and aquaria	• Backyard buddies program • Face to Face project

Table 2.5 Developed and private land

(Actions written in *italics* are proposed actions to be implemented)

Objective / Issue	Actions / Tasks
Protect / encourage retention of native vegetation	• Ku-ring-gai Council Development Control Plan - Water Management (DCP47) • Ku-ring-gai Council Development Control Plan 38 - The Ku-ring-gai Residential Design Manual (DCP 38) • Riparian Policy
Increase the amount of local native vegetation	• Ku-ring-gai Council Development Control Plan - Water Management (DCP47) • Ku-ring-gai Council Development Control Plan 38 - The Ku-ring-gai Residential Design Manual (DCP 38) • Assessment of DA's • Riparian Policy 1994
Raise awareness of local native flora and fauna	• Backyard Buddies program • Face to Face project • Wildlife Watch program
Prevent / ameliorate urban impacts such as runoff, pollutants and exotic plants	• Ku-ring-gai Council Development Control Plan - Water Management (DCP47) • Ku-ring-gai Council Development Control Plan 38 - The Ku-ring-gai Residential Design Manual (DCP 38) • Bushland Education Program • Face to Face Project
Encourage and nurture positive attitudes and actions towards biodiversity	• Bushland Education Program • Face to Face project • Backyard Buddies program • Wildlife Watch program
Encourage long-term protection via covenants and voluntary conservation agreements (VCA)	
Investigate the potential for using "offsetting" (as per TSC Act) to ameliorate impacts of Development Application (DA) proposals on biodiversity	• Threatened Species Conservation Act 1995 • Developer contributions to rehabilitate or buy private remnants threatened ecological communities
Investigate and promote conservation covenants and wildlife protection areas on private lands	
Increase awareness and knowledge of threatened ecological communities and threatened species habitat on private lands including schools, golf courses and other private open space	
Encourage the increase of biodiversity and habitat on private lands	• Backyard Buddies program • DCP 38 etc – review, update – incorporate into new comprehensive LEP when developed.
Conflict between biodiversity principles, urban habitat and the requirements for bushfire hazard management under the Rural Fires Act 1997	• See table 2.1

Table 2.6 Other public land

(Actions written in *italics* are proposed actions to be implemented)

Objective / Issue	Actions / Tasks
Seek further partnerships with other government bodies that promote biodiversity conservation including: o National Parks & Wildlife Serve / DEC o Catchment management Authorities (CMA's) o Crown Lands o State Owned Lands (DIPNR) o State Rail Authority SRA) Lands o Sydney Water Lands and infrastructure o Energy Australia Lands and infrastructure o Rural Fire Service	• Liaison and cooperation with Environment Australia and community groups for the successful submissions to have STIF and BGHF listed as nationally significant under the EPBC Act 1999 • Regional Fox Control Program (Urban Feral Animal Action Group - 12 Councils, NPWS and Taronga Zoo) • Regional Common Myna Control Program – in planning stage (Urban Feral Animal Action Group - 12 Councils, NPWS and Taronga Zoo) • Hornsby-Ku-ring-gai Bushfire Hazard Management Plan – consultation in Committee made up of Council staff, councillors and Rural Fire Service • Joint weed control / bush regeneration programs along rail corridor (SRA)
Promote consistent management principles at the interface between Council and other lands including: o Crown Lands o National Parks & Wildlife Serve / DEC o State Owned Lands (DIPNR) o Department of Planning o State Rail Authority Lands o Sydney Water Lands and infrastructure o Energy Australia Lands and infrastructure o Rural Fire Service	• Some Council policies (eg Bushland PoM) incorporate management principles consistent with NPWS lands as per LGA Act and EP&A TSC Acts
Encourage better communication and consultation between agencies in relation to works and programs including: o Crown Lands o State Owned Lands (DIPNR) o State Rail Authority Lands o Sydney Water Lands and infrastructure o Energy Australia Lands and infrastructure	• Sydney Water notify Council of dry period sewer overflows • Liaison between Energy Australia and Council over street tree pruning under power lines • Consultation with Sydney Water over proposed sewer mining projects and current stormwater reclamation projects

3. Monitoring, indicators and reporting

To know if local biodiversity is stable, declining or improving it is necessary to undertake a range of monitoring programs including benchmarking, long term and one off studies and investigation. Council already undertakes a number of monitoring programs that relate to biodiversity. These include terrestrial and aquatic macro-invertebrate sampling, vegetation condition mapping (weed intensities) in bushland reserves, vertebrate fauna monitoring and tree canopy assessment. See table 3.1 below.

Council, with consultants, researchers and universities, are currently developing further monitoring programs to provide a greater understanding of development pressures, responsiveness and condition of natural areas and effectiveness of both regeneration and other programs.

Results of our Monitoring program are reported in our comprehensive State of the Environment (SOE) report produced every four years. As new programs are developed it is anticipated that this will increase our understanding of pressure, state and responses.

Table 3.1 Key ecological monitoring programs

Monitoring Program	Frequency	What does it tell us
Aquatic Macroinvertebrate Sampling	3 year cycle (1 catchment per year since 1999).	Relative condition of streams health and gives relative longer term measures of water quality and riparian habitat quality. Allows quantitative comparisons of condition over time.
Rapid Riparian Assessment	Developed an tested 2004.	Overall condition of several components of the riparian zone and stream. Gives relative overall rating value.
Fauna Condition Surveys	3 year cycle (1 catchment per year since 2000).	Relative condition of bushland reserves in relation to vertebrate fauna and allows quantitative comparison of changes in faunal diversity and feral invasion. Allows quantitative comparisons of condition over time.
Wildlife Watch / Biobase	Opportunistic some regular data from volunteers. Program started around 1994.	Species of flora, fauna and fungi recorded in KC area. Relative biodiversity of vertebrate and some invertebrate fauna. Can get trends for some species over time. Historical records back to mid 1800's.
Strategic / Regional Weed Program	Annual.	Extent of targeted regional noxious weeds and areas treated.
Vegetation Condition Surveys	3 year cycle (1 catchment per year since 1997).	An index and map derived from rapid assessment of native vegetation to show extent of weed invasion in various structural layers.

4. Strategies and actions

The management of biodiversity in Council's bushland areas have to a degree been addressed through past, current and new Ku-ring-gai Bushland Reserves Plan of Management (2006). Supplementing these plans are Federal and State Government recovery and threat abatement plans to manage specific threatened and vulnerable species and communities.

Within developed open space areas and roadside reserves, the Open Space Strategy (2005), Generic Parks Plan of Management and other plans provide direction for biodiversity management. This strategy will further influence operations and planning, particularly in relation to strengthening bio-corridors, interface management and management within developed open space areas such as parks.

Biodiversity in private land requires a mix of education awareness policy and partnerships. Key Strategies will include future planning provisions as part of the comprehensive local environment plan and other statutory instruments, in combination with strengthened neighbour programs such as Bushcare and Streetcare.

The management of Crown Land by State agencies and authorities will be critical to the long-term viability of our biodiversity. In particular the National Parks and Nature Reserves provide substantial natural and land holdings adjacent to many of Council's bushland and other reserves. While these agencies will refer to the State Biodiversity Strategy, ongoing discussion and collaboration will be required at the local government level to ensure consistency and effective implementation.

As part of an ongoing review mechanism, this strategy will be reviewed every 3 years with annual reporting on actions through Council's Sate of the Environment Report. Actions listed in tables 2A to 2D will be assessed and updated as part of Council's annual operational program review. Actions and outcomes may also be referred annually to the Bushland Catchments and Natural Areas Refernce Group or other relevant committees for review.

5. List of appendices

Appendix 1: Glossary of technical terms

Appendix 2: Relevant state and local legislation and policies

Appendix 3: Threatening Processes, Threat Abatement Plans & Recovery Plans

Appendix 4: Australian Government Biodiversity Strategies, Action Plans and Agreements

Appendix 5: Reference material

Appendix 6: Biodiversity data

Appendix 7: Biodiversity Actions and responsibilities

Appendix 1: Glossary

Biolinks – patches of remnant habitat or indigenous vegetation, particularly those within a wider green corridor, that help in the movement of mobile fauna species, the flow on plant genes to nearby habitats and that have some value as repositories for local genetic plant stocks.
Bio-links could also be defined as habitat islands. Such stands are becoming increasingly important in urban areas where habitat is disappearing particularly for highly mobile or nomadic endangered species such as the Grey-headed Flying Fox, Rose-crowned Fruit Dove and Swift Parrot.

Corridors – zones or areas that form a habitat link between two or more natural areas. In this case they may be contiguous bands of habitat or vegetation and will generally contain all structural layers of plant communities. In a wider sense that can be areas or zones that form, or may be enhanced to form, links to other intact habitats via a series of smaller corridors or biolinks.

Genetic erosion
1. Is the loss of genetic variation
2. A permanent reduction in richness or evenness of common localised alleles or the loss of combination of alleles over time in a defined area.

Genetic erosion will be detrimental to the short-term viability of individuals and populations, the evolutionary potential of populations and species, and the direct use of genetic resources (Brown et al., 1997).

Approaches To Measuring Genetic Erosion
Luigi Guarino - International Plant Genetic Resources Institute (IPGRI), Regional Office for the Americas, Cali, Colombia *http://apps3.fao.org/wiews/Prague/Paper3.htm*

Brown, A., A. Young, J. Burdon, L. Christides, G. Clarke, D. Coates and W. Sherwin (1997) Genetic indicators for state of the environment reporting. Australia: State of the Environment Technical Paper Series (Environmental Indicators), Department of Environment, Sport and Territories, Canberra.

Provenance (stock) - Provenance is a term used to describe something's origin or source and in the case of seed as its "geographic place of origin or seed" (Loch and Whalley 1997). This term is also broadened to describe the patterns of variation exhibited by a species over its range reflecting its evolutionary history (Coates and van Leeuwen 1996).

Loch D. and Whalley R.D.B. (1997). Native Grassland Rehabilitation: The Place of Provenance Seed. *In: Proceedings of the First workshop of the Australian Native Grass and Legume Seed Industry Association Inc.*, 22 Oct 1997. Brisbane. pp 59-69.

Coates D.J and van Leeuwen S.J. (1996). Delineating seed provenance areas for revegetation from patterns of genetic variation. *In: Proceedings of the second Australian workshop on Native Seed Biology for Revegetation.* Eds. S.M.Bellairs and J.M. Osborne, 11-12 October, 1996, Newcastle. Australian Centre for Minesite Rehabilitation Research. pp 3-14.

Appendix 2: Relevant state and local legislation and policies

NSW

- *Noxious Weed Act 1993*
- *Rivers and Foreshores Improvement Act 1948*

Local

- Ku-ring-gai Council Companion Animal Management Plan 2005 (Draft)
- Ku-ring-gai Flying Fox Reserve Management Plan 1996
- Generic Plan of Management for Parks in Ku-ring-gai 2005
- Ku-ring-gai Council Comprehensive Local Environment Plan (LEP)
- Ku-ring-gai Council Development Control Plan 38
- The Ku-ring-gai Residential Design Manual (DCP 38)
- Ku-ring-gai Council Weed Management Policy 1997
- Ku-ring-gai Council Fire Management Policy 1998
- Ku-ring-gai Council Development Control Plan - Water Management (DCP 47)
- Ku-ring-gai Council Open Space Strategy 2005
- Ku-ring-gai Council Plan of Management 2005

Appendix 3: Threatening Processes, Threat Abatement Plans & Recovery Plans

Threatening Processes listed on the schedules of the TSC Act and the EPBC Act

Key Threatening Processes relevant to Ku-ring-gai LGA

- Alteration to the natural flow regimes of rivers, streams, floodplains & wetlands [1]
- Bushrock removal [1]
- Clearing of native vegetation [1]
- Competition and grazing by the feral European rabbit [1]
- Competition from feral honeybees [1]
- Ecological consequences of high frequency fires [1]
- Entanglement in or ingestion of anthropogenic debris in marine and estuarine [1] environments
- Human-caused climate change [1]
- Infection by Psittacine circoviral (beak and feather) disease affecting endangered psittacine species and populations [1]
- Infection of frogs by amphibian chytrid causing the disease chytridiomycosis [1]
- Infection of native plants by Phytophthora cinnamomi [1]
- Introduction of the large earth bumblebee, *Bombus terrestris* [1]
- Invasion of native plant communities by bitou bush and boneseed [1]
- Invasion of native plant communities by exotic perennial grasses [1]
- Loss and/or degradation of sites used for hill-topping by butterflies [1]
- Predation by feral cats [1]
- Predation by the European red fox [1]
- Predation by the plague minnow (*Gambusia holbrooki*) [1]
- Removal of dead wood and dead trees [1]
- Competition and land degradation by feral Rabbits[2]
- Dieback caused by the root-rot fungus (*Phytophthora cinnamomi*) [2]
- Infection of amphibians with chytrid fungus resulting in chytridiomycosis[2]
- Land clearance[2]
- Loss of climatic habitat caused by anthropogenic emissions of greenhouse gases[2]
- Predation by feral Cats[2]
- Predation by the European Red Fox (*Vulpes vulpes*) [2]
- Predation, Habitat Degradation, Competition and Disease Transmission by Feral Pigs[2]
- Psittacine Circoviral (beak and feather) Disease affecting endangered psittacine species[2]

Threatening processes that may become directly relevant to Ku-ring-gai LGA

- The reduction in the biodiversity of Australian native fauna and flora due to the red imported fire ant, *Solenopsis invicta* (fire ant) [2]
- Invasion of the yellow crazy ant [1]
- Herbivory and environmental degradation caused by feral deer [1]
- Feral pigs
- The biological effects, including lethal toxic ingestion, caused by Cane Toads (*Bufo marinus*). [2]
- Importation of red imported fire ants into NSW [1]

[1] TSC Act 1995, [2] Under the EPBC Act 1999

Approved Threat Abatement Plans EPBC and TSC Acts

Predation by the plague minnow - threat abatement plan [1]
Predation by the red fox - threat abatement plan [1]
Competition and Land Degradation by Feral Rabbits[2]
Dieback caused by the root-rot fungus (Phytophthora cinnamomi) [2]
Predation by Feral Cats[2]
Predation by European Red Fox [2]
Threat Abatement Plan for Beak and Feather Disease affecting endangered psittacine species[2]
Threat Abatement Plan for Predation, Habitat Degradation, Competition, and Disease [2]

[1] TSC Act 1995, [2] Under the EPBC Act 1999

Recovery Plans listed under the NSW TSC Act 1995

Approved Recovery Plans

Darwinia biflora
Grevillea caleyi
Persoonia mollis ssp mollis

Draft Recovery Plans Threatened Species Conservation Act 1995

Green and golden bell frog
Southern brown bandicoot
Barking owl
Large forest owls

Draft Recovery Plans in Preparation
Recovery planning for the Cumberland Plain endangered ecological communities
Darft Grey Headed Flying Fox Recovery Plan June 2005

Species and communities found in the KC LGA that are at risk from high fire frequency

(Extract from the Key Threatening Process listed by NSW DEC 2000)

High frequency fire and inappropriate fire regimes (which largely equates to too high a fire frequency) have been identified as threats to a number of **species and communities listed** on Schedule 1 or 2 of the Threatened Species Conservation Act, including:

Ecological Communities
Duffys Forest
Sydney Turpentine Ironbark Forest
Blue Gum High Forest
Sydney Coastal River-flat Forest (may occur)

- are all likely to suffer a loss of species if subject to repeated high frequency fires, based on current knowledge of the response of species to fire in the Sydney Region.

Plants
Acacia bynoeana
Darwinia biflora
Grevillea caleyi
Haloragodendron lucasii

Birds
Calyptorhynchus lathami (Glossy Black-Cockatoo)
Dasyornis brachypterus (Eastern Bristlebird)
Pezoporus wallicus (Ground Parrot)

Mammals
Dasyurus maculatus (Spotted-tailed Quoll)
Dasyurus viverrinus (Eastern Quoll)
Isoodon obesulus (Southern Brown Bandicoot)

A number of plant species now considered to be nationally rare (Briggs & Leigh 1996 – Rare or Threatened Australian Plants, CSIRO, Canberra) have been identified as being threatened by high fire frequency. For these species, which have restricted distributions, losses of additional sites are likely to lead to the species becoming threatened. Such species include:

Darwinia procera
Eucalyptus luehmanniana
Melaleuca deanii

Populations of certain common plant and animal species could become threatened by high frequency fire. Some examples of mammals include:

Acrobates pygmaeus (Feathertail Glider)
Antechinus flavipes (Yellow-footed Antechinus)
Antechinus swainsonii (Dusky Antechinus)
Isoodon macrourus (Northern Brown Bandicoot)
Perameles nasuta (Long-nosed Bandicoot)
Pseudocheirus peregrinus (Common Ringtail Possum)
Petaurus breviceps (Sugar Glider)

Note - these threatening processes, threat abatement and recovery plans were relevant when cited in May 2006. These may change and others may apply. Please refer to relevant state and commonwealth departments and legislation for up to date changes.

Appendix 4: Australian Government Biodiversity Strategies, Action Plans and Agreements

Listed below are policies that relate to the biodiversity activities of the Australian Government Department of the Environment and Heritage.

- **Biodiversity Hotspots:** identified in Australia and around the world. These hotspots are areas of great biodiversity that are under immediate threat. They have been identified to raise public awareness about their plight and to promote the need for action to conserve them.
- **National Approach to Firewood Collection and Use in Australia:** aims to ensure all firewood collection, including commercial cutting, is ecologically sustainable and not a major cause of loss and degradation of remnant and woodland ecosystems or the habitats of threatened species.
- **National Biodiversity and Climate Change Action Plan:** outlines a nationwide strategic approach to protect Australia's biodiversity from the impacts of climate change.
- **National Framework for Natural Resource Management (NRM) Standards and Targets:** establishes the principles and requirements for setting natural resource management standards and targets to guide investment through national natural resource management programs.
- **National Framework for the Management and Monitoring of Australia's Native Vegetation:** provides tools to help Commonwealth, State and Territory Governments to reverse the long-term decline in the quality and extent of Australia's native vegetation cover.
- **National Objectives and Targets for Biodiversity Conservation:** produced to augment the National Strategy for the Conservation of Australia's Biological Diversity. It sets objectives and targets for ten priority outcomes for the Australian Government, States and Territories to achieve.
- **National Principles and Guidelines for Rangeland Management** (armcanz-may28.pdf): establishes a framework for rangeland communities, in partnership with governments and in consultation with the broader community, to undertake regional planning to address the diverse social, cultural, environmental and economic issues facing their communities.
- **National Strategy for the Conservation of Australia's Biological Diversity:** provides an agreed framework for Australian governments to protect Australia's biodiversity.
- **National Water Quality Management Strategy:** a joint initiative between the Australian Government and state and territory governments to protect and enhance the quality of water resources while maintaining economic and social development.
- **National Weeds Strategy:** provides the mechanism to reduce the impact of weeds on the sustainability of Australia's productive capacity and natural ecosystems.
- **Regional Forest Agreements:** 20-year plans for the conservation and sustainable management of Australia's native forests.

Appendix 5: Reference material

- Ku-ring-gai Council Community Environmental Research Project 2005 (Unpublished)

- Department of Environmental Heritage 2005 Biodiversity Toolbox for Local government, October 2005 www.deh.gov.au/biodivseriy/toolbox/localgov.html

- Principles of the National Strategy for the Conservation of Australia's Biological Diversity, 1996

- Recovering bushland on the Cumberland Plain, Best practice guidelines for the management and restoration of bushland. Department of Envrionment and Conservation (NSW) Sydney 2005

Appendix 6: Biodiversity data

The species data in this section come from several sources including Council's own Wildlife Watch program, museum records, consultant reports, and the NPWS Wildlife Atlas.

Summary of biodiversity in Ku-ring-gai	
Species and ecosystem diversity	**Numbers of species or associations**
Flora species	843
Fauna species	537
Mammals	47
Reptiles	45
Amphibians	26
Birds	218
Fish	28
Invertebrates	173
Fungi species	171
Vegetation associations	26
Threatened Species	
Flora species	15
Fauna species	28
Mammals	8
Reptiles	1
Amphibians	3
Birds	15
Fish	1
Invertebrates	1 (not confirmed)
Threatened Ecological Communities	
Threatened Ecological Communities (NSW TSC Act)	3 (2 of these listed under EPBC Act)
NB. These figures are estimates only and should only be taken as a guide	

Threatened fauna species recorded in KC area

Common Name	Scientific Name	EPBC listed (national)	Comments
Birds			
Cotton Pygmy-Goose	Nettapus cocoromandelianus		
Sooty Oystercatcher	Haematopus fuliginosus		Probably only a rare vagrant
Little Tern	Sterna albifrons		Probably only a rare vagrant
Broad-billed Sandpiper	Limicola falcinellus		Probably only a rare vagrant
Rose-crowned Fruit-dove	Ptilinopus regina		
Superb Fruit-Dove	Ptilinopus superbus		
Osprey	Pandion haliaetus		Probably only a rare vagrant
Regent Honeyeater	Xanthomyza phrygia	Yes	
Eastern Bristlebird	Dasyornis brachypterus	Yes	Not recorded for over 50 years
Diamond Firetail	Stagonopleura guttata		
Fleshy-footed Shearwater	Puffinus carneipes		Probably only a rare vagrant
Gang-gang Cockatoo	Callocephalon fimbriatum		
Glossy Black-Cockatoo	Calyptorhynchus lathami		
Swift Parrot	Lathamus discolor	Yes	
Torquoise Parrot	Neophema pulchella		
Ground Parrot	Pezoporus wallicus		
Swift Parrot	Polytelis swainsonii	Yes	
Masked Owl	Tyto novaehollandiae		
Barking Owl	Ninox connivens		
Powerful Owl	Ninox strenua		
Fish			
Maquarie Perch	Macquaria australasica		
Frogs			
Green and Golden Bell Frog	Litoria aurea	Yes	
Giant Burrowing Frog	Heleioporus australiacus	Yes	
Red-crowned Toadlet	Pseudophryne australis		
Mammals			
Yellow-bellied Sheathtail Bat	Saccolaimus flaviventris		
Eastern Freetail Bat	Mormopterus norfolkensis		
Grey-headed Flying-fox	Pteropus poliocephalus	Yes	
Large Pied Bat	Chalinolobus dwyeri	Yes	
Eastern Bent-wing Bat	Miniopterus schreibersii	Yes	
Greater Broad-nosed Bat	Scoteanax rueppellii		
Eastern Pygmy-possum	Cercartetus nanus		
Koala	Phascolarctos cinereus		Probably occasional visitor
Spotted-tailed Quoll	Dasyurus maculatus	Yes	
Eastern Quoll	Dasyurus viverrinus		Not recorded for over 50 years
Southern Brown Bandicoot	Isoodon obesulus	Yes	
Reptiles			
Heath Monitor	Varanus rosenbergi		

EPBC = Environment Protection & Biodiversity Conservation Act (1999) lists species of national conservation significance.
NB. Other species may occur

Threatened Flora and Rare Flora Species in KC Area

Scientific Name	Legal Status	EPBC listed	Common Name
Epacris purpurascens var. purpurascens	T		
Eucalyptus camfieldii	T	Yes	Heart-Leaved Stringybark
Melaleuca deanei	T	Yes	
Deyeuxia appressa	T	Yes	
Tetratheca glandulosa	T	Yes	
Callistemon linearifolius	T		
Darwinia biflora	T	Yes	
Persoonia mollis ssp maxima	T	Yes	
Acacia gordonii	T	Yes	
Acacia bynoeana	T		
Dillwynia tenuifolia	T	Yes	
Grevillea caleyi	T	Yes	
Acacia pubescens	T	Yes	
Leptospermum deanei	T	Yes	
Haloragodendron lucasii	T	Yes	
Darwinia diminuta	ROTAP		
Genoplesium baueri	ROTAP		Midge Orchids
Acacia prominens	ROTAP		Gosford Wattle
Eucalyptus luehmanniana	ROTAP		Yellow-Top Ash
Boronia fraseri	ROTAP		
Lomandra fluviatilis	ROTAP		
Darwinia procera	ROTAP		
Lomandra brevis	ROTAP		
Boronia serrulata	ROTAP		Native Rose Boronia
Hibbertia nitida	ROTAP		
Angophora crassifolia	ROTAP		
Corybas undulatus	ROTAP		Tailed Helmet Orchid
Grevillea longifolia	ROTAP		

T = threatened (NSW Treatened Species Conservation Act, 1996), ROTAP = Rare or Threatened Australian Plant, EPBC = Environment Protection & Biodiversity Conservation Act (1999) lists species of national conservation significance.

Fauna Records

All species recorded in KC area. NB others may occur

Birds

	Scientific Name	Common Name
Family	Accipitridae	
	Accipiter cirrhocephalus	Collared Sparrowhawk
	Accipiter fasciatus	Brown Goshawk
	Accipiter novaehollandiae	Grey Goshawk
	Aquila audax	Wedge-tailed Eagle
	Aviceda subcristata	Pacific Baza/Crested Hawk
	Circus approximans	Swamp Harrier
	Elanus axillaris	Black-shouldered Kite
	Haliaeetus leucogaster	White-bellied Sea-Eagle
	Haliastur sphenurus	Whistling Kite
	Hieraaetus morphnoides	Little Eagle
	Pandion haliaetus	Osprey
Family	Aegothelidae	
	Aegotheles cristatus	Australian Owlet-nightjar
Family	Alcedinidae	
	Alcedo azurea	Azure Kingfisher
Family	Anatidae	
	Anas castanea	Chestnut Teal
	Anas superciliosa	Pacific Black Duck
	Chenonetta jubata	Maned (Wood) Duck
	Cygnus atratus	Black Swan
	Nettapus coromandelianus	Cotton Pygmy-Goose
Family	Apodidae	
	Apus pacificus	Fork-tailed Swift
	Hirundapus caudacutus	White-throated Needletail
Family	Ardeidae	
	Aardea pacifica	White-necked Heron
	Ardea alba	Great Egret
	Ardea ibis	Cattle Egret
	Butorides striatus	Straited Heron
	Egretta novaehollandiae	White-faced Heron
	Ixobrychus minutus	Little Bittern
	Nycticorax caledonicus	Rufous Night Heron
Family	Artamidae	
	Artamus cyanopterus	Dusky Woodswallow
	Artamus personatus	Masked Woodswallow
	Artamus superciliosus	White-browed Woodswallow
Family	Cacatuidae	
	Cacatua galerita	Sulphur-crested Cockatoo
	Cacatua sanguinea	Little Corella
	Cacatua tenuirostris	Long-billed Corella
	Callocephalon fimbriatum	Gang-gang Cockatoo
	Calyptorhynchus funereus	Yellow-tailed Black-Cockatoo

	Calyptorhynchus lathami	Glossy Black-Cockatoo
	Eolophus roseicapilla	Galah
Family	Campephagidae	
	Coracina novaehollandiae	Black-faced Cuckoo-shrike
	Coracina papuensis	White-bellied Cuckoo-shrike
	Coracina tenuirostris	Cicadabird
	Lalage sueurii	White-winged Triller
Family	Caprimulgidae	
	Eurostopodus mysticalis	White-throated Nightjar
Family	Centropodidae	
	Centropus phasianinus	Pheasant Coucal
Family	Charadriidae	
	Charadrius bicinctus	Double-banded Plover
	Vanellus miles	Masked Lapwing
Family	Cinclosomatidae	
	Cinclosoma punctatum	Spotted Quail-thrush
	Psophodes olivaceus	Eastern Whipbird
Family	Climacteridae	
	Climacteris picumnus	Brown Treecreeper
	Cormobates leucophaeus	White-throated Treecreeper
Family	Columbidae	
	Chalcophaps indica	Emerald Dove
	Columba leucomela	White-headed Pigeon
	Geopelia cuneata	Diamond Dove
	Geopelia humeralis	Bar-shouldered Dove
	Geopelia striata	Peaceful Dove
	Leucosarcia melanoleuca	Wonga Pigeon
	Lopholaimus antarcticus	Topknot Pigeon
	Macropygia amboinensis	Brown Cuckoo-Dove
	Ocyphaps lophotes	Crested Pigeon
	Phaps chalcoptera	Common Bronzewing
	Phaps elegans	Brush Bronzewing
	Ptilinopus regina	Rose-crowned Fruit-dove
	Ptilinopus magnificus	Wompoo Pigeon
	Ptilinopus superbus	Superb Fruit-Dove
Family	Coraciidae	
	Eurystomus orientalis	Dollarbird
Family	Corvidae	
	Corvus coronoides	Australian Raven
Family	Cracticidae	
	Cracticus nigrogularis	Pied Butcherbird
	Cracticus torquatus	Grey Butcherbird
	Gymnohorina tibicen	Australian Magpie
	Strepera graculina	Pied Currawong
	Strepera versicolor	Grey Currawong
Family	Cuculidae	
	Cacomantis flabelliformis	Fan-tailed Cuckoo
	Cacomantis variolosus	Brush Cuckoo
	Chrysococcyx basalis	Horsfield's Bronze-Cuckoo

	Chrysococcyx lucidus	Shining Bronze-Cuckoo
	Cuculus pallidus	Pallid Cuckoo
	Cuculus saturatus	Oriental Cuckoo
	Eudynamis scolopacea	Common Koel
	Scythrops novaehollandiae	Channel-billed Cuckoo
Family	Dicaecidae	
	Dicaeum hirundinaceum	Mistletoebird
Family	Dicruridae	
	Dicrurus bracteatus	Spangled Drongo
	Grallina cyanoleuca	Australian Magpie-lark
	Monarcha melanopsis	Black-faced Monarch
	Myiagra cyanoleuca	Satin Flycatcher
	Myiagra inquieta	Restless Flycatcher
	Myiagra rubecula	Leaden Flycatcher
	Rhipidura fuliginosa	Grey Fantail
	Rhipidura leucophrys	Willie Wagtail
	Rhipidura rufifrons	Rufous Fantail
Family	Falconidae	
	Falco berigora	Brown Falcon
	Falco cenchroides	Nankeen Kestrel
	Falco longipennis	Australian Hobby
	Falco peregrinus	Peregrine Falcon
Family	Haematopodidae	
	Haematopus fuliginosus	Sooty Oystercatcher
Family	Halcyonidae	
	Dacelo novaeguineae	Laughing Kookaburra
	Todiramphus sanctus	Sacred Kingfisher
	Todirhampus macleayii	Forest Kingfisher
Family	Hirundinidae	
	Cecropis ariel	Fairy Martin
	Hirundo neoxena	Welcome Swallow
Family	Laridae	
	Larus novaehollandiae	Silver Gull
	Sterna albifrons	Little Tern
Family	Maluridae	
	Malurus cyaneus	Superb Fairy-wren
	Malurus lamberti	Variegated Fairy-wren
	Stipiturus malachurus	Southern Emu-wren
Family	Megapodidae	
	Alectura lathami	Australian Brush-turkey
Family	Meliphagidae	
	Acanthorhynchus tenuirostris	Eastern Spinebill
	Anthochaera carunculata	Red Wattlebird
	Anthochaera chrysoptera	Brush (Little) Wattlebird
	Epthianura albifrons	White-fronted Chat
	Lichenostomus chrysops	Yellow-faced Honeyeater
	Lichenostomus fuscus	Fuscous Honeyeater
	Lichenostomus leucotis	White-eared Honeyeater
	Lichenostomus melanops	Yellow-tufted Honeyeater

	Manorina melanocephala	Noisy Miner
	Meliphaga lewinii	Lewins Honyeater
	Melithreptus brevirostris	Brown-headed Honeyeater
	Melithreptus lunatus	White-naped Honeyeater
	Myzomela sanguinolenta	Scarlet Honeyeater
	Philemon citreogularis	Little Friarbird
	Philemon corniculatus	Noisy Friarbird
	Phylidonyris albifrons	White-fronted Honeyeater
	Phylidonyris nigra	White-cheeked Honeyeater
	Phylidonyris novaehollandiae	New Holland Honeyeater
	Xanthomyza phrygia	Regent Honeyeater
Family	Menuridae	
	Menura novaehollandiae	Superb Lyrebird
Family	Motacillidae	
	Anthus novaeseelandiae	Richard's Pipit
Family	Muscicapidae	
	Zoothera lunulata	White's (Bassian) Thrush
Family	Neosittidae	
	Daphoenositta chrysoptera	Varied Sittella
Family	Oriolidae	
	Oriolus sagittatus	Olive-backed Oriole
	Sphecotheres viridis	Figbird
Family	Pachycephalidae	
	Colluricincla harmonica	Grey Shrike-thrush
	Falcunculus frontatus	Crested Shrike-tit
	Pachycephala pectoralis	Golden Whistler
	Pachycephala rufiventris	Rufous Whistler
Family	Pardalotidae	
	Acanthiza chrysorrhoa	Yellow-rumped Thornbill
	Acanthiza lineata	Striated Thornbill
	Acanthiza nana	Yellow Thornbill
	Acanthiza pusilla	Brown Thornbill
	Acanthiza reguloides	Buff-rumped Thornbill
	Chthonicola sagittatus	Speckled Warbler
	Dasyornis brachypterus	Eastern Bristlebird
	Gerygone mouki	Brown Gerygone
	Gerygone olivacea	White-throated Gerygone
	Hylacola pyrrhopygia	Chestnut-rumped Heathwren
	Origma solitaria	Origma (Rockwarbler)
	Pardalotus punctatus	Spotted Pardalote
	Pardalotus striatus	Striated Pardalote
	Sericornis frontalis	White-browed Scrubwren
Family	Passeridae	
	Neochmia temporalis	Red-browed Finch
	Stagonopleura guttata	Diamond Firetail
Family	Pelecanidae	
	Pelecanus conspicillatus	Australian Pelican
Family	Petroicidae	
	Eopsaltria australis	Eastern Yellow Robin

	Melanodryas cucullata	Hooded Robin
	Microeca fascinans	Jacky Winter
	Microeca leucophaea	Jacky Winter
	Petroica goodenovii	Red-capped Robin
	Petroica multicolor	Scarlet Robin
	Petroica rosea	Rose Robin
	Tregellasia capito	Pale-Yellow Robin
Family	Phalacrocoracidae	
	Phalacrocorax carbo	Great Cormorant
	Phalacrocorax melanoleucos	Little Pied Cormorant
	Phalacrocorax sulcirostris	Little Black Cormorant
	Phalacrocorax varius	Pied Cormorant
Family	Phasianidae	
	Coturnix ypsilophora	Brown Quail
Family	Pittidae	
	Pitta versicolor	Noisy Pitta
Family	Podargidae	
	Podargus strigoides	Tawny Frogmouth
Family	Podicipedidae	
	Tachybaptus novaehollaniae	Australasian Grebe
Family	Procellariidae	
	Pterodroma lessonii	White-headed Petrel
	Pterodroma macroptera	Great-winged Petrel
	Puffinus carneipes	Fleshy-footed Shearwater
Family	Psittacidae	
	Alisterus scapularis	Australian King-Parrot
	Glossopsitta concinna	Musk Lorikeet
	Glossopsitta pusilla	Little Lorikeet
	Lathamus discolor	Swift Parrot
	Neophema pulchella	Torquoise Parrot
	Pezoporus wallicus	Ground Parrot
	Platycercus adscitus	Pale-headed Rosella
	Platycercus elegans	Crimson Rosella
	Platycercus eximius	Eastern Rosella
	Polytelis swainsonii	Swift Parrot
	Psephotus haematonotus	Red-rumped Parrot
	Trichoglossus chlorolepidotus	Scaly-brested Lorikeet
	Trichoglossus haematodus	Rainbow Lorikeet
Family	Ptilonorhynchidae	
	Ptilonorhynchus violaceus	Satin Bowerbird
	Sericulus chrysocephalus	Regent Bowerbird
Family	Rallidae	
	Fulica atra	Eurasian Coot
	Gallinula tenebrosa	Dusky Moorhen
	Gallirallus philippensis	Buff-banded Rail
	Porphyrio porphyrio	Purple Swamphen
	Porzana fluminea	Australian Spotted Crake
	Porzana tabuensis	Spotless Crake
Family	Scolopacidae	

	Limicola falcinellus	Broad-billed Sandpiper
Family	Strigidae	
	Ninox connivens	Barking Owl
	Ninox novaeseelandiae	Southern Boobook
	Ninox strenua	Powerful Owl
Family	Sylviidae	
	Aacrocephalus stentoreus	Clamorous Reed-Wabler
	Cisticola exilis	Golden-headead Cisticola
Family	Threskiornithidae	
	Platalea regia	Royal Spoonbill
	Threskiornis molucca	Australian White Ibis
	Threskiornis spinicollis	Straw-necked Ibis
Family	Turnicidae	
	Turnix pyrrhothorax	Red-chested Button-quail
	Turnix varia	Painted Button-quail
Family	Tytonidae	
	Tyto alba	Barn Owl
Family	Zosteropidae	
	Zosterops lateralis	Silverye
Fish		
Family	Balistidae	
	Monacanthus chinensis	Fan-bellied Leatherjacket
Family	Centropomidae	
	Ambassis marianus (jun. syn updat)	Perchlet Species
Family	Clupeidae	
	Harengula abbreviata	Southern Herring
	Hyperlophus translucidus	Sandy Sprat
Family	Elopidae	
	Elops australis	Giant Herring ?
Family	Gerreidae	
	Gerres subfasciatus j.s.u.	Silver Biddy
Family	Gobiidae	
	Redigobius macrostoma	Large-mouth Goby
Family	Mugilidae	
	Mugil cephalus	Sea Mullet
	Myxus elongatus	Sand Grey Mullet
	Myxus petardi (jun. syn update)	Mullet Speies
Family	Platycephalidae	
Family	Pomatomidae	
	Pomatomus saltatrix	Tailor
Family	Scombridae	
	Auxis sp.	Mackeral species
Family	Serranidae	
	Macquaria colonorum (jun. syn. upd)	Estuary Perch

Family	Sillaginidae	
	Sillago ciliata	Sand Whiting
	Sillago maculata	Trumpeter Whiting
Family	Sparidae	
	Acanthopagrus australis	Yellowfin Bream
Fish (Freshwater)		
Family	Anguillidae	
	Anguilla reinhardtii	Long-finned Eel
Family	Clupeidae	
	Hypseleotris compressus	Empire Gudgeon
Family	Eleotrididae	
	Gobiomorphus australis	Striped Gudgeon
	Gobiomorphus coxii	Cox's Gudgeon
	Hypseleotris galii	Firetail Gudgeon
	Philypnodon grandiceps	Flathead Gudgeon
	Philypnodon sp nov ?	Gudgeon Species
Family	Galaxiidae	
	Galaxias maculatus	Common Jollytail
Family	Serranidae	
	Macquaria australasica	Maquarie Perch
Fish (Marine)		
Family		
	John Dory	John Dory
Family	Antennariidae	
	Antennarius striatus	Striped Anglerfish
Family	Clinidae	
	Cristiceps aurantiacus	Golden Weedfish
	Cristiceps australis	rested Weedfish
Family	Gobiidae	
	Cryptocentroides cristatus	Fish
	Gobiopterus semivestitus	Goby Sp.
Family	Molidae	
	Mola ramsayi	Southern Ocean Sunfish
Family	Soleidae	
	Synaptura nigra	Black Sole
Family	Triglidae	
	Chelidonichthys kumu	Red Gurnard
Frogs		
Family	Hylidae	
	Litoria aurea	Green and Golden Bell Frog
	Litoria caerulea	Green Tree Frog
	Litoria citropa	Blues Mountains Tree Frog

	Litoria dentata	Bleating Tree Frog
	Litoria ewingii	Brown Tree Frog
	Litoria fallax	Eastern Dwarf Tree Frog
	Litoria freycineti	Freycinet's Frog
	Litoria gracilenta	Dainty Green Tree Frog
	Litoria jervisiensis	Jervis Bay Tree Frog
	Litoria latopalmata	Broad-palmed Frog
	Litoria lesueuri	Lesueur's Frog
	Litoria nasuta	Rocket Frog
	Litoria peronii	Peron's Tree Frog
	Litoria phyllochroa	Leaf Green Tree Frog
	Llitoria verreuaxii	Verreaux's Tree Frog
Family	Myobatrachidae	
	Crinia signifera	Common Eastern Froglet
	Heleioporus australiacus	Giant Burrowing Frog
	Limnodynastes dorsalis	Western Banjo Frog
	Limnodynastes dumerilii	Eastern Banjo Frog
	Limnodynastes peronii	Brown-striped Marsh Frog
	Limnodynastes tasmaniensis	Spotted Grass Frog
	Lymnodenastes peronii	Striped Marsh Frog
	Paracrinia haswelli	Haswell's Frog
	Pseudophryne australis	Red-crowned Toadlet
	Pseudophryne bibronii	Bibron's Toadlet
	Summary for Frogs (310 records) (1019 sightings)	
Invertebrates		
Family		
	Nephila sp.	Golden Orb Weaver (spider)
Family	Aeshnidae	
	unassessed IOA1 - Aeshnidae Family	Dragonfly
Family	Alpheidae	
	Alpheus papillosus	Shrimp species
Family	Amphipterygidae	
	unassessed IOA2 - Amphipterygidae	
Family	Ancylidae	
	unassessed GBA1 - Ancylidae Family	Freshwater Snail (small)
Family	Antipodoecidae	
	unassessed ITA1 - Antipodoecidae	
Family	Arrenuridae	
	unassessed AHA1 - Arrenuridae	Water Mite
Family	Athericidae	
	unassessed IDA1 - Athericidae	Mosquito, aquatic lava
Family	Aturidae	
	unassessed AHA2 - Aturidae Family	Water Mite
Family	Atyidae	
	Paratya atacta adynata	Freshwater Shrimp
	unassessed CDA1 - Atyidae Family	Freshwater Shrimp
Family	Baetidae	
	unassessed IEB1 - Baetidae Family	May-fly

Family	Balanidae	
	Balanus amphitrite	Striped Barnacle
	Balanus perforatus var fistulotus	Barnacle
Family	Caenidae	
	unassessed IEC1 - Caenidae Family	May-fly
Family	Calamoceratidae	
	unassessed ITC1 - Calamoceratidae	
Family	Calappidae	
	Matuta planipes	Crab
Family	Calocidae/Helicophidae	
	unassessed ITC2 -	
Family	Camaenidae	
	Meridolum middenense +	Molusc
	Meridolum middenense form sn19 +	Molusc
Family	Ceinidae	
	unassessed CAC1 - Ceinidae Family	
Family	Centropagidae	
	Boeckella minuta	Copepod
Family	Ceratopogonidae	
	unassessed IDC1 - Ceratopogonidae	Biting Midge-fly, aquatic lava
Family	Charopidae	
	Elsothera sericatula	Snail (land)
Family	Chironomidae	
	indeterminate IDC4	Non-biting Midge-fly, aquatic
	unassessed IDC2 - Chironomidae	Non-biting Midge-fly, aquatic
	unassessed IDC3 - Chironomidae	Non-biting Midge-fly, aquatic
	unassessed IDC5 - Chironomidae	Non-biting Midge-fly, aquatic
	unassessed IDC6 - Chironomidae	Non-biting Midge-fly, aquatic
	unassessed IDC7 - Chironomidae	Non-biting Midge-fly, aquatic
Family	Chthamalidae	
	Chthamalus antennatus	Barnacle
Family	Corduliidae	
	unassessed IOC2 - Corduliidae	Dragonfly
Family	Corixidae	
	unassessed IHC1 - Corixidae Family	True Bug - Water-boatman
Family	Corydalidae	
	unassessed IMC1 - Corydalidae	Dobsonfly
Family	Culicidae	
	unassessed IDC8 - Culicidae Family	Mosquito, aquatic lava
Family	Cyprididae	
	unassessed COC1 - Cyprididae	Freshwater Pea-shrimp
Family	Dolichopodidae	
	unassessed IDD1 - Dolichopodidae	Fly, aquatic lava
Family	Domanibdellidae	
	Micobdella auritus	Worm

Family	Dugesiidae	
	unassessed TTD1 - Tricladida	Flatworm
Family	Dytiscidae	
	unassessed ICD1 - Dytiscidae Family	Predacious Diving Beetle
Family	Ecnomidae	
	unassessed ITE1 - Ecnomidae	
Family	Ellobiidae	
	Ophicardelus sulcatus	Molusc (Gastropod)
Family	Elmidae	
	unassessed ICE1 - Elmidae Family	Riffle Water Beetle
Family	Enchytraeidae	
	unassessed OTE1 - Enchytraeidae	Aquatic Worm (small)
Family	Erpobdellidae	
	unassessed HiE1 - Erpobdellidae	Aquatic Leech
Family	Eunicidae	
	Lysidice sp.	Worm
Family	Eylaidae	
	unassessed AHE1- Eylaidae family	Water Mite
Family	Formicidae	
	Camponotus consobrinus	Sugar Ant
Family	Gammaridae	
	Melita inaequistylis	Amphipod
Family	Gelastocoridae	
	unassessed IHG1 - Gelastocoridae	True Bug
Family	Gerridae	
	unassessed IHG2 - Gerridae Family	True Bug - Surface-dweller
Family	Glossiphoniidae	
	unassessed HiG1 - Glossiphoniidae	Aquatic Leech
Family	Gomphidae	
	unassessed IOG1 - Gomphidae	Dragonfly
Family	Gordiidae	
	unassessed NGG1 - Gordiidae	Gordian Worm
Family	Grapsidae	
	Chasmagnathus haswellianus	Crab
	Chasmagnathus laevis	Crab
	Metaplax hirsutimanus	Crab
	Sesarma erythrodactyla	Crab
Family	Gripopterygidae	
	unassessed IPG1 - Gripopterygidae	Stonefly
Family	Gyrinidae	
	unassessed ICG1 - Gyrinidae Family	Whirligig Water Beetle
Family	Haliplidae	
	unassessed ICH1 - Haliplidae Family	Crawling Water Beetle
Family	Hebridae	
	unassessed IHH1- Hebridae Family	True Bug

Family	Helicopsychidae	
	unassessed ITH1 - Helicopsychidae	
Family	Hydraenidae	
	unassessed ICH2 - Hydraenidae	Rove Water Beetle
Family	Hydrobiidae	
	Potamopyrgus antipodarum	Snail/molusc
	Tatea huonensis	Aquatic Snail
	Tatea rufilabris	Aquatic Snail
	unassessed GSH1 - Hydrobiidae	Freshwater Snail
Family	Hydrobiosidae	
	unassessed ITH2 - Hydrobiosidae	
Family	Hydrodromidae	
	unassessed AHH1 - Hydrodromidae	Water Mite
Family	Hydrophilidae	
	unassessed ICH3 - Hydrophilidae	Scavenger Water Beetle
Family	Hydropsychidae	
	unassessed ITH3 - Hydropsychidae	
Family	Hydroptilidae	
	unassessed ITH4 - Hydroptilidae	
Family	Hydryphantidae	
	unassessed AHH2 - Hydryphantidae	Water Mite
Family	Hygrobatidae	
	unassessed AHH3 - Hygrobatidae	Water Mite
Family	Hymenosomatidae	
	Hymenosoma australe	Crab
Family	indeterminate	
	indeterminate Ahi1	Water Mite
	indeterminate CAi1	
	indeterminate Gii1	Freshwater Snail
	indeterminate Hii1	Aquatic Leech
	indeterminate IEi1	May-fly
	indeterminate IHi1	True Bug
Family	Isostictidae	
	unassessed IOI1 - Isostictidae Family	
Family	Laomediidae	
	Laomedia healyi	Ghost Shrimp
Family	Leptoceridae	
	unassessed ITL1 - Leptoceridae	
Family	Leptophlebiidae	
	unassessed IEL1 - Leptophlebiidae	May-fly
Family	Libellulidae	
	unassessed IOL1 - Libellulidae	Dragonfly
Family	Limacidae	
	Deroceras reticulatum	Molusc (Slug)
	Lehmannia nyctelia	Striped field slug

Family	Limnesiidae	
	unassessed AHL1 - Limnesiidae	Water Mite
Family	Limnocharidae	
	unassessed AHL2 - Limnocharidae	Water Mite
Family	Lumbriculidae	
	unassessed OLL1 - Lumbriculidae	Aquatic Worm (small)
Family	Lymnaeidae	
Family	Majidae	
	Hyastenus diacanthus	Crab
	Hyastenus elatus	Crab
Family	Megapodagrionidae	
	unassessed IOM1 -	Damselfly
Family	Mictyridae	
	Mictyris longicarpus	Soldier Crab
Family	Mideopsidae	
	unassessed AHM1 - Mideopsidae	Water Mite
Family	Milacidae	
	Milax gagates	Molusc
Family	Momoniidae	
	unassessed AHM2 - Momoniidae	Water Mite
Family	Muscidae	
	unassessed IDM1 - Muscidae Family	Fly, aquatic lava
Family	Naididae	
	unassessed OTN1 - Naididae Family	Aquatic Worm (small)
Family	Nepidae	
	unassessed IHN1 - Nepidae Family	True Bug
Family	Notodromatidae	
	Newnhamia fenestrata	Seed Shrimp
Family	Notonectidae	
	unassessed IHN2 - Notonectidae	True Bug - Back-swimmer
Family	Ocypodidae	
	Heloecius cordiformis	Semaphore Crab
	Macrophthalmus crassipes	Crab
	Macrophthalmus punctulatus	Crab
	Macrophthalmus setosus	Crab
	Scopimera	Sand Bubbler crab Species
Family	Odontoceridae	
	unassessed ITO1 - Odontoceridae	
Family	Oniscidae	
	unassessed CIO1 - Oniscidae Family	Woodlouse ?
Family	Oxidae	
Family	Palaemonidae	
	Leander	Shrimp / Prawn
	Leander intermedius	Shrimp / Prawn
	Macrobrachium novaehollandiae	New Holland river prawn

	Palaemon litoreus	Shore prawn
	Palaemon novaehollandiae	Prawn
Family	Parastacidae	
	Euastacus australasiensis	Freshwater Crayfish
	Euastacus spinifer	Freshwater Crayfish
	Euastacus spinifer spinifer	Freshwater Crayfish
	unassessed CDP1 - Parastacidae	Freshwater Crayfish
Family	Penaeidae	
	Metapenaeus macleayi	School prawn
	Penaeus plebejus	Eastern King Prawn
Family	Philopotamidae	
	unassessed ITP1 - Philopotamidae	
Family	Philorheithridae	
	unassessed ITP2 - Philorheithridae	
Family	Phreodrilidae	
	unassessed OTP1 - Phreodrilidae	Aquatic Worm (small)
Family	Physidae	
	Physa acuta	Freshwater Snail
	unassessed GBP1 - Physidae Family	Freshwater Snail
Family	Planorbidae	
	Glyptophysa sp	Freshwater Snail
	unassessed GBP2 - Planorbidae	Freshwater Snail
Family	Pleidae	
	unassessed IHP1 - Pleidae Family	True Bug
Family	Polycentropodidae	
	unassessed ITP3 -	
Family	Porcellionidae	
	Porcellio scaber	Slater / Woodlouse
Family	Psephenidae	
Family	Psychodidae	
	unassessed IDP1 - Psychodidae	Moth-fly, aquatic lava
Family	Ptilodactylidae	
	unassessed ITP4 - Ptilodactylidae	
Family	Pyralidae	
	unassessed ILP1 - Pyralidae Family	Moth
Family	Richardsonianidae	
	Richardsonianus sp	Worm
	unassessed HiR1 -	Aquatic Leech
Family	Scirtidae	
	unassessed ICS1 - Scirtidae Family	Marsh Water Beetle
Family	Sergestidae	
	Acetes australis	Molusc
	Acetes sibogae australis	Molusc
Family	Simuliidae	
	unassessed IDS1 - Simuliidae Family	Black- fly, aquatic larva

Family	Siphonotidae	
	unassessed DPS1 - Siphonotidae	Millipede?
Family	Sphaeriidae	
	Sphaerium tasmanicum	Aquatic Pea-mussel
	unassessed BVS1 - Sphaeriidae	Aquatic Pea-mussel
Family	Sphaeromatidae	
	Sphaeroma quoyana	Isopod (Marine burrowing)
	Sphaeroma terebrans	Isopod (marine wood boring)
Family	Spongillidae	
	unassessed pP iS1 - Spongillidae	
Family	Stratiomyidae	
	unassessed IDS2 - Stratiomyidae	Soldier-fly, aquatic lava
Family	Synlestidae	
	unassessed IOS1 - Synlestidae	Dragonfly / Damselfly
Family	Talitridae	
	Talitrus sylvaticus	Amphipod
	unassessed CAT1 - Talitridae Family	
Family	Tetraclitidae	
	Tetraclita rosea	Barnacle?
Family	Tipulidae	
	unassessed IDT1 - Tipulidae Family	Crane-fly, aquatic lava
Family	Torrenticolidae	
	unassessed AHT1 - Torrenticolidae	Water Mite
Family	Tubificidae	
	unassessed OTT1 - Tubificidae	Aquatic Worm (small)
Family	unassessed	
	unassessed AOu1 - Oribatida Order	Water Mite
	unassessed COu1 - Ostracoda Order	Ostracod (Seed Shrimp)
	unassessed OOu1 - Opisthopora	Aquatic Worm (large)
	unassessed pN uu1 - Nematoda	
Family	Unionicolidae	
	unassessed AHU1 - Unionicolidae	Water Mite
Family	Veliidae	
	unassessed IHV1 - Veliidae Family	True Bug - Surface-dweller
Mammals		
Family		
Family	Acrobatidae	
	Acrobates pygmaeus	Feathertail Glider
Family	Burramyidae	
	Cercartetus nanus	Eastern Pygmy-possum
Family	Dasyuridae	
	Antechinus stuartii	Brown Antechinus
	Dasyurus maculatus	Spotted-tailed Quoll
	Dasyurus viverrinus	Eastern Quoll

Family	Emballonuridae	
	Saccolaimus flaviventris	Yellow-bellied Sheathtail Bat
Family	Macropodidae	
	Macropus giganteus	Eastern Grey Kangaroo
	Walabia bicolor	Swamp Wallaby
Family	Molossidae	
	Mormopterus norfolkensis	Eastern Freetail Bat
	Mormopterus sp.1	Bat
	Mormopterus species (undescribed)	Eastern Freetail Bat
	Nyctinomous australis	White-striped Mastiff-bat
	Nyctinomus australis	White-striped Freetail-bat
	Tadarida australis	White-striped Mastif Bat
Family	Muridae	
	Rattus fuscipes	Bush Rat
	Rattus lutreolus	Swamp Rat
Family	Ornithorhynchidae	
	Ornithorhynchus anatinus	Platypus
Family	Peramelidae	
	Isoodon obesulus	Southern Brown Bandicoot
	Perameles nasuta	Long-nosed Bandicoot
Family	Petauridae	
	Petaurus breviceps	Sugar Glider
Family	Phalangeridae	
	Trichosurus vulpecula	Common Brushtail Possum
Family	Phascolarctidae	
	Phascolarctos cinereus	Koala
Family	Pseudocheiridae	
	Pseudocheirus peregrinus	Common Ringtail Possum
Family	Pteropodidae	
	Pteropus poliocephalus	Grey-headed Flying-fox
	Pteropus scapulatus	Little Red Fruit Bat
Family	Rhinolophidae	
	Rhinolophus megaphyllus	Eastern Horseshoe Bat
Family	Tachyglossidae	
	Tachyglossus aceleatus	Short-beaked Echidna
Family	Vespertilionidae	
	Chalinolobus dwyeri	Large Pied Bat
	Chalinolobus gouldii	Gould's Wattled Bat
	Chalinolobus morio	Chocolate Wattled Bat
	Miniopterus schreibersii oceanensis	Eastern Bent-wing Bat
	Nyctophilus geoffroyi	Lesser Long-eared Bat
	Nyctophilus gouldi	Gould's Long-eared Bat
	Scoteanax rueppellii	Greater Broad-nosed Bat
	Scotorepens orion orion	Eastern Broad-nosed Bat
	Vespadelus darlingtoni	Large Forest Bat
	Vespadelus pumilus	Eastern Forest Bat
	Vespadelus vulturnus	Little Forest Bat

	Summary for Mammals (969 records) (48279 sightings)	
Family	Agamidae	
	Amphibolurus muricatus	Jacky Lizard
	Physignathus lesueurii	Eastern Water Dragon
	Pogona barbata	Bearded Dragon
	Tympanocryptis diemensis	Mountain Dragon
Family	Boidae	
	Morelia spilota	Diamond Python
Family	Chelidae	
	Chelodina longicollis	Eastern Long-necked Tortoise
	Emydura signata	Short Necked Turtle (tortoise)
Family	Colubridae	
	Boiga irregularis	Brown Tree Snake
	Dendrelaphis punctulata	Green Tree Snake
Family	Elapidae	
	Acanthophis antarcticus	Common Death Adder
	Cacophis squamulosus	Golden Crowned Snake
	Demansia psammophis	Yellow-faced Whip Snake
	Furina diadema	Red-naped Snake
	Hemiaspis signata	Black-bellied Swamp Snake
	Notechis scutatus	Eastern Tiger Snake
	Pseudechis porphyriacus	Red-bellied Black Snake
	Pseudonaja textilis	Eastern Brown Snake
	Vermicella annulata	Bandy Bandy
Family	Gekkonidae	
	Diplodactylus vittatus	Stone Gecko
	Oedura lesueurii	Lesueur's Velvet Gecko
	Phyllurus platurus	Southern Leaf-tailed Gecko
	Underwoodisaurus milii	Thick-tailed Gecko
Family	Pygopodidae	
	Lialis burtonis	Burton's Legless Lizard
	Pygopus lepidopodus	Common Scaly-foot
Family	Scincidae	
	Anomalopus swansoni	Punctate Worm-skink
	Bassiana platynota	Red-throated Skink
	Cryptoblepharus virgatus	Wall Lizard
	Ctenotus robustus	Striped Skink
	Ctenotus taeniolatus	Copper-tailed Skink
	Egernia cunninghami	Cunningham's Skink
	Egernia whitii	White's Skink
	Eulamprus quoyii	Eastern Water Skink
	Eulamprus tenuis	Bar-sided Skink
	Lampropholis delicata	Grass Skink
	Lampropholis guichenoti	Garden Skink
	Pseudemoia platynota	Red-Throated Skink
	Saiphos equalis	Three-toed Skink
	Saproscincus galli	Skink species
	Saproscincus mustelina	Weasel Skink

	Tiliqua scincoides	Eastern Blue-tongued Lizard
	Trachydosaurus rugosus	Shingleback
Family	Typhlopidae	
	Ramphotyphlops bituberculatus	Blind Snake
	Ramphotyphlops nigrescens	Blind Snake
Family	Varanidae	
	Varanus gouldii	Gould's Goanna
	Varanus rosenbergi	Heath Monitor
	Varanus varius	Lace Monitor

Flora Records

All species recorded in KC area. NB others may occur

	Scientific Name	Common Name
	Recorded	Recorded
Family	Acanthaceae	
	Brunoniella australis	Blue Trumpet
	Brunoniella sp.	Trumpets
	Pseuderanthemum variabile	Pastel Flower
Family	Adiantaceae	
	Adiantum aethiopicum	Common Maidenhair Fern
	Adiantum formosum	Giant Maidenhair Fern
	Adiantum hispidulum	Rough Maidenhair Fern
	Adiantum silvaticum	Fern
Family	Amaranthaceae	
	Alternanthera denticulata	Lesser Joyweed
Family	Apiaceae	
	Actinotus helianthi	Flannel Flower
	Actinotus minor	Lesser Flannel Flower
	Centella asiatica	Pennywort
	Daucus glochidiatus	Native Carrot
	Hydrocotyle acutiloba	
	Hydrocotyle laxiflora	Stinking Pennywort
	Hydrocotyle peduncularis	
	Hydrocotyle tripartita	Pennywort
	Platysace ericoides	
	Platysace lanceolata	
	Platysace linearifolia	
	Xanthosia pilosa	
	Xanthosia tridentata	
Family	Apocynaceae	
	Parsonsia straminea	Common Silkpod
Family	Araceae	
	Alocasia macrorrhizos	Cunjevoi / Spoon Lily
	Gymnostachys anceps	Settler's Flax
Family	Araliaceae	

	Astrotricha floccosa	Star-hairs
	Astrotricha latifolia	Star-hairs
	Astrotricha longifolia	Star-hairs
	Polyscias elegans	Celery Wood / Silver Basswood
	Polyscias sambucifolia	Elderberry Panax
Family	Arecaceae	
	Livistona australis	Cabbage Palm
Family	Asclepiadaceae	
	Marsdenia suaveolens	Scented Marsdenia
	Tylophora barbata	Bearded Tylophora
Family	Aspleniaceae	
	Asplenium australasicum	Bird's Nest Fern
	Asplenium flabellifolium	Weeping Spleenwort
	Asplenium nidus	
Family	Asteraceae	
	Brachycome augustifolia	
	Cassinia aculeata	Dolly Bush
	Cassinia denticulata	
	Cassinia uncata	Sticky Cassinia
	Cotula australis	Common Cotula / Carrot Weed
	Helichrysum apiculatum	
	Helichrysum elatum	
	Helichrysum scorpioides	Button Everlasting
	Olearia microphylla	
	Olearia ramulosa	
	Olearia tomentosa	
	Ozothamnus diosmifolius	White Dogwood
	Senecio lautus	Variable Groundsel
	Senecio lautus ssp. lautus	
	Senecio minimus var. minimus	
Family	Atherospermataceae	
	Doryphora sassafras	Sassafras
Family	Athyriaceae	
	Diplazium australe	
	Lunathyrium japonica	
Family	Avicenniaceae	
	Avicennia marina var. australasica	Grey Mangrove
Family	Azoaceae	
	Tetragonia tetragonoides	Warragal Spinach
Family	Bignoniaceae	
	Pandorea pandorana	Wonga Wonga Vine
Family	Blechnaceae	
	Blechnum cartilagineum	Gristle Fern
	Blechnum nudum	Water Fern
	Blechnum patersonii	Strap Water Fern
	Blechnum sp.	
	Doodia aspera	Rasp Fern
	Doodia caudata var. caudata	
	Doodia media	

Family	Caesalpinioideae	
	Cassia artemisoides	
Family	Campanulaceae	
	Wahlenbergia bicolor	Native Bluebells
	Wahlenbergia gracilis	Native Bluebells
	Wahlenbergia stricta	Tall Bluebell
Family	Caprifoliaceae	
	Sambucus australasica	
Family	Cassythaceae	
	Cassytha glabella	Devil's Twine
	Cassytha paniculata	Devil's Twine
	Cassytha pubescens	Devil's Twine
Family	Casuarinaceae	
	Allocasuarina distyla	
	Allocasuarina glauca	
	Allocasuarina littoralis	Black Sheoak
	Allocasuarina torulosa	Forest Oak
	Casuarina cunninghamiana	River Oak / River Sheoak
	Casuarina glauca	Swamp Oak
Family	Celastraceae	
	Maytenus silvestris	Narrow-leaved Orangebark
Family	Chenopodiaceae	
	Einadia hastata	Berry Saltbush Shrub
	Einadia trigonos	Fishweed Shrub
	Sarcocornia quinqueflora	Samphire
Family	Clusiaceae	
	Hypericum japonicum	
Family	Commelinacea	
	Commelina cyanea	Running Sailor
Family	Convolvulaceae	
	Convolvulus erubescens	Bindweed
	Cuscuta australis	Australian Dodder
	Dichondra repens	Kidney Weed
	Ipomoea indica	Blue Morning Glory
Family	Cunoniaceae	
	Bauera rubioides	Swamp Rose
	Callicoma serratifolia	Black Wattle
	Ceratopetalum apetalum	Coachwood
	Ceratopetalum gummiferum	Christmas Bush
	Schizomeria ovata	Crabapple
Family	Cupressaceae	
	Callitris rhomboidea	Port Jackson Pine
Family	Cyatheaceae	
	Cyathea australis	Rough Treefern
	Cyathea leichhardtiana	Prickly Treefern
Family	Cyperaceae	
	Baumea acuta	

	Baumea juncea	
	Baumea nuda	
	Baumea rubiginosa	
	Carex breviculmis	
	Caustis flexuosa	
	Caustis pentandra	
	Centrolepis strigosa	
	Chorizandra cymbaria	
	Cyathochaeta diandra	
	Cyperus brevifolius	
	Cyperus congestus	
	Cyperus eragrostis	Umbrella Sedge
	Cyperus gracilis	
	Cyperus mirus	
	Cyperus polystachyos	
	Cyperus rotundus	Nutgrass
	Cyperus tenellus	
	Empodisma minus	
	Fimbristylis dichotoma	
	Gahnia aspera	
	Gahnia clarkei	Saw-sedge
	Gahnia erythrocarpa	Saw-sedge
	Gahnia melanocarpa	Saw-sedge
	Gahnia sieberana	Saw-sedge
	Lepidosperma filiforme	
	Lepidosperma flexuosum	
	Lepidosperma laterale	
	Lepidosperma lineare	
	Lepidosperma urophorum	
	Lepyrodia gracilis	
	Lepyrodia scariosa	
	Ptilanthelium deustum	
	Scheonus imberbis	
	Schoenus brevifolius	
	Schoenus ericetorum	
	Schoenus imberbis	
	Schoenus maschalinus	
	Schoenus melanostachys	
	Schoenus villosus	
Family	Cyperaceae	
	Isolepis inundata	
	Isolepis nodosa	
Family	Davalliaceae	
	Davallia latifolia	
	Davallia pyxidata	Hare's Foot Fern
Family	Dawsoniaceae	
	Dawsonia polystrichoides	
Family	Dennstaedtiaceae	
	Histiopteris incisa	Bat's Wing Fern
	Hypolepis caudata	
	Hypolepis muelleri	Harsh Ground Fern

	Pteridium esculentum.	Bracken Fern
Family	Dicksoniaceae	
	Calochlaena dubia	Common Ground Fern
Family	Dilleniaceae	
	Hibbertia aspera	
	Hibbertia astrotricha	
	Hibbertia bracteata	
	Hibbertia cistiflora	
	Hibbertia dentata	Twining Guinea Flower
	Hibbertia diffusa	
	Hibbertia empetrifolia	
	Hibbertia fasiculata	
	Hibbertia linearis	
	Hibbertia nitida	
	Hibbertia obtusifolia	
	Hibbertia riparia	
	Hibbertia scandens	Climbing Guinea Flower
Family	Droseraceae	
	Drosera auriculata	Sundew
	Drosera binata	Sundew
	Drosera peltata	Sundew
	Drosera spathulata	Sundew
Family	Dryopteridiaceae	
	Polystichum australiense	
	Polystichum proliferum	Mother Shield Fern
Family	Elaeocarpaceae	
	Elaeocarpus reticulatus	Blueberry Ash
Family	Epacridaceae	
	Acrotriche divaricata	
	Acrotriche serrulata	Honeypots
	Astroloma humifusum	Native Cranberry
	Brachyloma daphnoides	
	Dracophyllum secundum	
	Epacris crassifolia	
	Epacris longiflora	Fucshia Heath
	Epacris microphylla	
	Epacris obtusifolia	
	Epacris pulchella	
	Epacris purpurascens var. purpurascens	
	Leucopogon amplexicaulis	
	Leucopogon cupressus	
	Leucopogon ericoides	
	Leucopogon juniperinus	
	Leucopogon lanceolatus	
	Leucopogon microphyllus	
	Leucopogon setiger	
	Leucopogon sp.	
	Monotoca elliptica	
	Monotoca scoparia	
	Sprengelia incarnata	
	Styphelia lacta var. lacta	

	Styphelia longifolia	
	Styphelia triflora	
	Styphelia tubiflora	
	Trochocarpa laurina	Tree Heath
	Woollsia pungens	
Family	Euphorbiaceae	
	Amperea xiphoclada	
	Breynia oblongifolia	
	Chamaesyce drummondii	
	Glochidion ferdinandi	Cheese Tree
	Glochidion linearifolia	
	Micrantheum ericoides	
	Phyllanthus hirtellus	
	Poranthera ericifolia	
	Poranthera microphylla	
	Ricinocarpos pinifolius	Wedding Bush Shrub
Family	Euphorbiaceae	
	Omalanthus populifolius	Bleeding Heart
	Phyllanthus gasstroemii	
	Phyllanthus thymoides	
Family	Eupomatiaceae	
	Eupomatia laurina	Bolwarra
Family	Fabaceae	
	Pultenaea hispidula	
Family	Fabaceae (Faboideae)	
	Aotus ericoides	
	Bossiaea heterophylla	
	Bossiaea obcordata	
	Bossiaea scolopendria	
	Daviesia latifolia	Bitter Pea
	Daviesia ulicifolia	Gorse Bitter Pea
	Desmodium rhytidophyllum	
	Desmodium varians	Slender Tick-Trefoil
	Dillwynia floribunda	
	Dillwynia floribunda var. floribunda	
	Dillwynia floribunda var. teretifolia	
	Dillwynia glaberrima	
	Dillwynia retorta	
	Dillwynia retorta var. retorta	
	Dillwynia rudis	
	Dillwynia sericea	
	Dillwynia tenuifolia	
	Glycine clandestina	
	Glycine microphylla	
	Glycine tabacina	
	Gompholobium glabratum	Dainty Wedge Pea
	Gompholobium grandiflorum	Large Wedge Pea
	Gompholobium latifolium	Goldern Glory Pea
	Gompholobium minus	Dwarf Wedge Pea
	Hardenbergia violacea	False Sarsaparilla
	Hovea linearis	

	Hovea longifolia	
	Hovea sp.	
	Indigofera australis	
	Kennedia rubicunda	Rusty coral Pea
	Mirbelia rubiifolia	
	Phyllota grandiflora	
	Phyllota phylicoides	
	Platylobium formosum	
	Platylobium latifolium	
	Pultenaea daphnoides	
	Pultenaea elliptica	
	Pultenaea flexilis	
	Pultenaea linophylla	
	Pultenaea palacea	
	Pultenaea retusa	
	Pultenaea scabra var. biloba	
	Pultenaea stipularis	
	Pultenaea villosa	
	Sphaerolobium vimineum	
	Viminaria juncea	Native Broom
	Zornia dyctiocarpa	Zornia
Family	Fabaceae (Mimosoideae)	
	Acacia binervia	Coast Myall
	Acacia brownii	
	Acacia bynoeana	
	Acacia decurrens	Black Wattle
	Acacia echinula	
	Acacia falcata	
	Acacia floribunda	White Sally Wattle
	Acacia gordonii	
	Acacia hispidula	
	Acacia implexa	Hickory Wattle
	Acacia irrorata	Green Wattle
	Acacia linearifolia	30/04/199
	Acacia linifolia	Flax-Leaved Wattle
	Acacia longifolia	Sydney Golden Wattle
	Acacia longissima	
	Acacia mearnsii	Black Wattle
	Acacia melanoxylon	Blackwood Wattle
	Acacia myrtifolia	Red-Stemmed Wattle
	Acacia oxycedrus	Spike Wattle
	Acacia parramattensis	
	Acacia parvipinnula	Silver-Stemmed Wattle
	Acacia pubescens	
	Acacia schinoides	
	Acacia stricta	
	Acacia suaveolens	Sweet Wattle
	Acacia terminalis	Sunshine Wattle
	Acacia ulicifolia	Prickly Moses Wattle
Family	Geraniaceae	
	Geranium homeanum	Native Geranium / Cranesbill
	Geranium solanderi	Native Geranium

Family	Gleicheniaceae	
	Gleichenia dicarpa	Coral Fern
	Gleichenia microphylla	Coral Fern
	Gleichenia rupestris	
	Sticherus flabellatus	Umbrella Fern
	Sticherus lobatus	Spreading Shield Fern
Family	Goodeniaceae	
	Dampiera purpurea	
	Dampiera stricta	
	Goodenia bellidifolia	
	Goodenia bellidifolia ssp bellidifolia	
	Goodenia dimorpha var dimorpha	
	Goodenia hederacea	
	Goodenia heterophylla	
	Goodenia stelligera	
	Scaevola ramosissima	
Family	Grammitaceae	
	Grammitis billardieri	Finger Fern
Family	Grossulariaceae	
	Abrophyllum maidenii	Native Gooseberry
	Abrophyllum ornans	Native Gooseberry
Family	Haemodoraceae	
	Haemodorum corymbosum	Bloodroot
	Haemodorum planifolium	Bloodroot
Family	Haloragaceae	
	Gonocarpus micranthus	
	Gonocarpus teucrioides	
	Haloragis heterophylla	
	Haloragis teucrioides	
	Haloragodendron lucasii	
Family	Hymenophyllaceae	
	Hymenophyllum cupressiforme	Common Filmy Fern
Family	Iridaceae	
	Patersonia fragilis	
	Patersonia glabrata	
	Patersonia longifolia	
	Patersonia sericea	
	Patersonia sp.	
Family	Juncaceae	
	Juncus bufonius	Toad Rush
	Juncus cognatus	
	Juncus homalocaulis	
	Juncus kraussii	Sea Rush
	Juncus planifolius	
	Juncus prismatocarpus	
	Juncus subsecundus	
	Juncus usitatus	
Family	Lamiaceae	
	Hemigenia purpurea	

	Plectranthus parviflorus	
	Prostanthera sp.	Mint-bush
	Prunella vulgaris	Self-heal
	Westringia fruticosa	Coastal Rosemary
Family	Liliaceae	
	Arthropodium milleflorum	
	Blandfordia nobilis	
	Burchardia umbellata	
	Caesia parviflora	
	Caesia vittata	
	Dianella caerulea ssp. caerula	Blue Flax Lily
	Dianella caerulea ssp. producta	Blue Flax Lily
	Dianella laevis	Flax Lily
	Dianella prunina	Flax Lily
	Dianella revoluta	Flax Lily
	Dianella tasmanica	Flax Lily
	Dichopogon fimbriatus	
	Laxmannia gracilis	
	Schelhammera undulata	
	Stypandra caespitosum	
	Stypandra sp.	Nodding Blue Lily
	Thysanotus tuberosus	
	Tricoryne simplex	
Family	Lindsaeceae	
	Lindsaea linearis	Screw Fern
	Lindsaea microphylla	Lacy Wedge Fern
	Lindsaea sp.	
Family	Lobeliaceae	
	Isotoma fluviatilis	Swamp Isotoma
	Lobelia alata	Angled Lobelia
	Lobelia gibbosa	Tall Lobelia
	Lobelia gracilis	Trailing Lobelia
	Pratia purpurascens	Whiteroot
Family	Loganiaceae	
	Logania albiflora	
	Mitrasacme polymorpha	
Family	Lomandraceae	
	Lomandra brevis	
	Lomandra confertifolia	
	Lomandra confertifolia ssp rubiginosa	
	Lomandra cylindrica	
	Lomandra filiformis	Wattle Mat-rush
	Lomandra filiformis ssp.filiformis	
	Lomandra fluviatilis	
	Lomandra glauca	Pale Mat-rush
	Lomandra gracilis	
	Lomandra longifolia	Spiny-headed Mat-rush
	Lomandra multiflora	Many-flowered Mat-rush
	Lomondra obliqua	
Family	Loranthaceae	
	Amyema congener ssp. congener	

	Dendrophthoe vitellina	
Family	Lycopodiaceae	
	Lycopodium laterale	Slender Clubmoss
Family	Meliaceae	
Family	Menispermaceae	
	Sarcopetalum harveyanum	Pearl Vine Climber
	Stephania japonica	
	Stephania japonica var. discolor	Snake Vine Climber
Family	Monimiaceae	
	Palmeria scandens	Anchor Vine Climber
	Wilkiea huegeliana	Veiny Wilkiea
Family	Moraceae	
	Ficus coronata	Creek Sandpaper Fig
	Ficus rubiginosa	Port Jackson Fig / Rusty Fig
Family	Myrsinaceae	
	Aegiceras corniculatum	River Mangrove
	Rapanea howittiana	Brush Muttonwood
	Rapanea variabilis	Muttonwood
Family	Myrtaceae	
	Acmena smithii	Lilly Pilly
	Angophora bakeri	Narrow-Leaved Apple
	Angophora costata	Sydney Red Gum
	Angophora crassifolia	
	Angophora floribunda	Rough-Barked Apple
	Angophora hispida	Dwarf Apple / Scrub Apple
	Austromyrtus tenuifolia	
	Backhousia myrtifolia	Grey Myrtle
	Baeckea brevifolia	
	Baeckea densifolia	
	Baeckea diosmifolia	
	Baeckea imbricata	
	Baeckea linifolia	
	Baeckea ramosissima	Rosy Baeckea
	Baeckea virgata	
	Callistemon citrinus	Crimson Bottlebrush
	Callistemon linearifolius	
	Callistemon linearis	Narrow-Leaved Bottlebrush
	Callistemon pinifolius	Pine-Leaved Bottlebrush
	Callistemon rigidus	Stiff Bottlebrush
	Callistemon salignus	Willow Bottlebrush
	Calytrix tetragona	Fringe Myrtle Shrub
	Corymbia gummifera	
	Darwinia biflora	
	Darwinia fascicularis	
	Darwinia procera	
	Eucalyptus acmenoides	White Mahogany
	Eucalyptus camfieldii	Heart-Leaved Stringybark
	Eucalyptus capitellata	Brown Stringybark
	Eucalyptus eximia	Yellow Bloodwood
	Eucalyptus globoidea	White Stringybark

	Eucalyptus gummifera	Red Bloodwood
	Eucalyptus haemastoma	Scribbly Gum
	Eucalyptus luehmanniana	Yellow-Top Ash
	Eucalyptus multicaulis	Whipstick Ash
	Eucalyptus oblonga	Stringybark
	Eucalyptus paniculata	Ironbark
	Eucalyptus pilularis	Blackbutt
	Eucalyptus piperita	Sydney Peppermint
	Eucalyptus piperita ssp. piperita	
	Eucalyptus punctata	Grey Gum
	Eucalyptus racemosa	Narrow-Leaved Scribbly Gum
	Eucalyptus resinifera	Red Mahogany
	Eucalyptus robusta	Swamp Mahogany
	Eucalyptus saligna	Sydney Blue Gum
	Eucalyptus sideroxylon	Mugga
	Eucalyptus sieberi	Silver Top Ash
	Eucalyptus sparsifolia	Narrow-Leaved Stringybark
	Kunzea ambigua	Tick Bush
	Kunzea capitata	
	Leptospermum arachnoides	
	Leptospermum attenuatum	
	Leptospermum brevipes	
	Leptospermum deanei	
	Leptospermum grandifolium	Woolly Tea Tree
	Leptospermum juniperinum	
	Leptospermum laevigatum	Coast Tea Tree
	Leptospermum lanigerum	Woolly Tea Tree
	Leptospermum parvifolium	
	Leptospermum polygalifolium	
	Leptospermum squarrosum	
	Leptospermum trinervium	
	Melaleuca deanei	
	Melaleuca hypericifolia	
	Melaleuca nodosa	
	Melaleuca quinquenervia	Paperbark
	Melaleuca styphelioides	Prickly-Leaved Tea Tree
	Micromyrtus ciliata	
	Syncarpia glomulifera	Turpentine
	Tristania laurina	
	Tristania neriifolia	Water Gum
	Tristaniopsis laurina	Kanuka/Water Gum
Family	Oleaceae	
	Notelaea longifolia	Large-leaved Mock Olive
	Notelaea ovata	
	Notelaea venosa	Veined Mock-olive/Smooth
Family	Onagraceae	
	Epilobium billardierianum	
Family	Onograceae	
	Epilobium hirtigerum	
Family	Orchidaceae	
	Acianthus caudatus	Mayfly Orchid

	Acianthus exsertus	Mosquito Orchid
	Acianthus fornicatus	Pixie Caps
	Acianthus reniformis	
	Caladenia alba	Lady Fingers
	Caladenia caerulea	Blue Caladenia
	Caladenia carnea	Pink Fingers
	Caladenia catenata	White Fingers
	Caleana major	Flying Duck Orchid
	Calochilus robertsonii	Purplish Beard Orchid
	Chiloglottis reflexa	Bird Orchid
	Corybas undulatus	Tailed Helmet Orchid
	Cryptostylis erecta	Tartan Tongue Orchid
	Cryptostylis erecta ssp. subulata	
	Cryptostylis subulata	Large Tongue Orchid
	Cymbidium suave	Snake Orchid
	Dendrobium linguiforme	Tongue Orchid
	Dendrobium speciosum	Rock Lily
	Dipodium punctatum	Hyacinth Orchid
	Diuris aurea	
	Diuris maculata	Spotted Doubletail Orchid
	Diuris sulphurea	Tiger/ Hornet Orchid
	Eriochilus cucullatus	Parson's Bands
	Genoplesium baueri	Midge Orchids
	Glossodia major	Waxlip Orchid
	Glossodia minor	Small Waxlip Orchid
	Prasophyllum elatum	Tall Leek Orchid
	Prasophyllum woollsii	
	Pterostylis acuminata	Pointed Greenhood
	Pterostylis daintreana	
	Pterostylis grandiflora	Cobra Greenhood
	Pterostylis longifolia	Tall Greenhood
	Pterostylis nutans	Greenhood Orchid
	Thelymitra ixioides	Dotted Sun Orchid
	Thelymitra media	Tall Sun Orchid
	Thelymitra pauciflora	Slender Sun Orchid
Family	Osmundaceae	
	Todea barbara	King Fern
Family	Passifloraceae	
	Passiflora herbertiana	Native Passionfruit
Family	Philesiaceae	
	Eustrephus latifolius	Wombat Berry
	Geitonoplesium cymosum	Scrambling Lilly
Family	Pittosporaceae	
	Billardiera scandens	Appleberry / Apple Dumplings
	Bursaria spinosa	Native Blackthorn
	Hymenosporum flavum	Native Frangipani
	Pittosporum revolutum	
	Pittosporum undulatum	Sweet Pittosporum
Family	Plantaginaceae	
	Plantago debilis	
Family	Poaceae	

	Agrostis avenacea	
	Anisopogon avenaceus	Oat Speargrass
	Aristida vagans	Three-awn Speargrass
	Chionochloa pallida	Redanther Wallaby Grass
	Cymbopogon refractus	Barbed Wire Grass
	Cynodon dactylon	Couch/Bermuda Grass
	Danthonia tenuior	Wallaby Grass
	Deyeuxia appressa	
	Deyeuxia decipiens	
	Deyeuxia quadrisecta	
	Dichelachne crinita	Longhair Plumegrass
	Dichelachne micrantha	Shorthair Plumegrass
	Dichelachne rara	
	Digitaria parviflora	Small-flowered Finger Grass
	Echinopogon caespitosus	
	Echinopogon sp.	Hedgehog Grass
	Entolasia marginata	Bordered Panic
	Entolasia stricta	Wiry Panic
	Eragrostis brownii	Brown's Lovegrass
	Eragrostis elongata	Clustered Lovegrass
	Imperata cylindrica	Blady Grass
	Microlaena stipoides	Weeping Grass
	Microlaena stipoides var. stipoides	
	Oplismenus aemulus	Basket Grass
	Oplismenus imbecillis	
	Panicum simile	Two Colour Panic
	Paspalum vaginatum	Salt-water Couch
	Phragmites australis	Common Reed
	Poa affinis	
	Poa labillardieri	Tussock Grass
	Poa sieberiana	
	Sporobolus virginicus	
	Stipa pubescens	
	Stipa ramosissima	Stout Bamboo Grass
	Themeda australis	Kangaroo Grass
	Themeda triandra	
Family	Podocarpaceae	
Family	Polygonaceae	
	Persicaria decipiens	Slender Knotweed
	Persicaria hydropiper	Water Pepper Herb
	Persicaria lapathifolia	Pale Knotweed Herb
Family	Polypodiaceae	
	Microsorum pustulatum	Kangaroo Fern
	Microsorum scandens	Fragrant Fern
	Platycerium bifurcatum	Elkhorn Fern
	Platycerium superbum	Staghorn Fern
	Pyrrosia rupestris	Rock Felt Fern
Family	Primulaceae	
	Samolus repens	Creeping Brookwood Herb
Family	Proteaceae	
	Banksia aspleniifolia	

	Banksia ericifolia	
	Banksia integrifolia	
	Banksia marginata	
	Banksia oblongifolia	
	Banksia robur	
	Banksia serrata	
	Banksia spinulosa	
	Banksia spinulosa var. spinulosa	
	Comesperma defoliatum	Fairies Wings
	Comesperma ericinum	Match Heads / Heath Milkwort
	Comesperma volubile	Love Creeper
	Conospermum longifolium	
	Conospermum taxifolium	
	Grevillea buxifolia	Grey Spider Flower
	Grevillea caleyi	
	Grevillea linearifolia	
	Grevillea longifolia	
	Grevillea mucronulata	
	Grevillea parvifolia	
	Grevillea sericea	
	Grevillea speciosa	Red Spider Flower
	Grevillea speciosa ssp. speciosa	Red Spider Flower
	Hakea bakeriana	
	Hakea dactyloides	
	Hakea gibbosa	
	Hakea laurina	
	Hakea propinqua	
	Hakea salicifolia	Willow-Leaved Hakea
	Hakea sericea	
	Hakea teretifolia	Dagger bush
	Isopogon anemonifolius	Drumsticks
	Isopogon anethifolius	Drumsticks
	Isopogon pulchella	
	Lambertia formosa	Mountain Devil
	Lomatia myricoides	Crinkle Bush
	Lomatia silaifolia	River Lomatia
	Persoonia isophylla	Geebung
	Persoonia lanceolata	Geebung
	Persoonia lanceolata ssp. lanceolata	Geebung
	Persoonia laurina	Geebung
	Persoonia levis	Broad-Leaved Geebung
	Persoonia linearis	Narrow-Leaved Geebung
	Persoonia linifolia	
	Persoonia mollis ssp maxima	
	Persoonia pinifolia	Pine-Leaved Geebung
	Petrophile pulchella	Conesticks
	Petrophile sessilis	Conesticks
	Stenocarpus saligna	
	Telopea speciosissima	Waratah
	Xylomelum pyriforme	Woody Pear
Family	Psilotaceae	
	Psilotum nudum	Skeleton Fork Fern

Family	Pteridaceae	
	Pteridium esculentum	
	Pteris tremula	Tender Brake
	Pteris vittata	Chinese Brake
Family	Ranunculaceae	
	Clematis aristata	Old Man's Beard
	Clematis glycinoides	Headache Vine Climber
Family	Restionaceae	
	Hypolaena fastigiata	
	Leptocarpus tenax	
	Restio complanatus	
	Restio fastigiatus	
	Restio gracilis	
Family	Rhamnaceae	
	Cryptandra amara	
	Pomaderris aspera	Hazel Pomaderris Shrub
	Pomaderris discolor	
	Pomaderris elliptica	
	Pomaderris intermedia	
Family	Rosaceae	
	Rubus hillii	Molucca Bramble
	Rubus parvifolius	Native Rasberry Shrub
Family	Rubiaceae	
	Galium binifolium	
	Morinda jasminoides	
	Opercularia aspera	Coarse Stinkweed
	Opercularia hispidula	Hairy Stinkweed
	Opercularia varia	Variable Stinkweed
	Pomax umbellata	
Family	Rutaceae	
	Boronia floribunda	Pale-Pink Boronia
	Boronia ledifolia	Ledum / Sydney Boronia
	Boronia pinnata	
	Boronia serrulata	Native Rose Boronia
	Correa reflexa	Native Fuchsia
	Crowea saligna	
	Eriostemon australasius	Wax Flower
	Eriostemon buxifolius	
	Eriostemon myoporoides	Wax Flower
	Phebalium dentatum	Toothed Phebalium
	Phebalium squamulosum	Scaly Phebalium
	Philotheca salsolifolia	
	Zieria laevigata	
	Zieria pilosa	
	Zieria smithii	Sandfly Zieria
Family	Santalaceae	
	Exocarpos cupressiformis	Cherry Ballart / Native Cherry
	Leptomeria acida	Sour Currant Bush
	Omphacomeria acerba	

Family	Sapindaceae	
	Dodonaea triquetra	Native Hop Bush
	Guioa semiglauca	
Family	Schizaeceae	
	Cheilanthes distans	Bristly Cloak Fern
	Cheilanthes sieberi	
	Cheilanthes tenuifolia	
	Schizaea bifida	Forked Comb Fern
	Schizaea rupestris	
Family	Scrophulariaceae	
	Veronica calycina	Hairy Speedwell
	Veronica plebeia	Trailing Speedwell
Family	Selaginellaceae	
	Selaginella uliginosa	
Family	Sinopteridaceae	
	Pellaea falcata	Sickle Fern
Family	Smilacaceae	
	Smilax australis	
	Smilax glyciphylla	Sweet Sarsaparilla
Family	Solanaceae	
	Solanum aviculare	Kangaroo Apple
Family	Stackhousiaceae	
	Stackhousia nuda	
	Stackhousia viminea	Slender Stackhousia
Family	Sterculiaceae	
	Lasiopetalum dentatum	
	Lasiopetalum ferrugineum	
	Lasiopetalum rufum	
Family	Stylidiaceae	
	Stylidium productum	Triggerplant
	Stylidium graminifolium	Grass Triggerplant
	Stylidium lineare	Narrow-leaved Triggerplant
Family	Thymelaceae	
	Christella dentata	
	Pimelea linifolia	
Family	Tremandraceae	
	Tetratheca ericifolia	
	Tetratheca glandulosa	
Family	Ulmaceae	
	Trema aspera	Native Peach
Family	Verbenaceae	
	Clerodendrum tomentosum	
Family	Violaceae	
	Hybanthus filiformis	
	Hybanthus vernonii	
	Viola betonicifolia	Native Violet
	Viola hederacea	Native Violet

Family	Vitaceae	
	Cayratia clematidea	Slender Grape
	Cissus antarctica	Water Vine
	Cissus hypoglauca	Giant Water Vine
Family	Xanthorrhoeaceae	
	Xanthorrhoea arborea	Grass Tree
	Xanthorrhoea media	
	Xanthorrhoea resinosa	Grass Tree
	Xanthorrhoea resinosa ssp. resinosa	
Family	Xyridaceae	
	Xyris gracilis	
	Xyris opercula	
Family	Zamiaceae	
	Macrozamia communis	Burrawang

Fungi Records

All species recorded in KC area. NB others may occur

Order	**Agaricales**	
Class	Basidiomycetes	**Common Name**
	Psalliota campestris	Field mushroom
Class	Heterobasidomycetes	
	Agaricus sp.	
Class	Homobasidomycetes	
	"Bolete" type	no details given, 2 species
	Agaricus sp.1*	yellow stainer, dark cap
	Agaricus sp.2*	yellow stainer, paler cap
	Agaricus sp.3*	non-yellow stainer, brown cap
	Amanita armeniaca	
	Amanita ochrophylla	
	Amanita punctata	
	Amanita sp.1*	cap grey, paler velar remains
	Amanita sp.2*	cap very pale grey
	Amanita sp.3*	cap light brown/grey darker warts
	Amanita sp.4.*	no details given
	Amanita sp.5*	no details
	Amanita sp.6*	no details
	Amanita xanthocephala	
	Armillaria hirnulea	
	Armillaria luteobubalina	
	Collybia abutyracea ?	genus correct, species uncertain
	Collybia sp.1*	cap to 70mm, creamy brown
	Collybia sp.2*	cap to 25mm, pale brown, stem
	Coprinus atramentarius ?	
	Coprinus disseminatus	

	Coprinus rotundisporus	
	Coprinus sp.1*	cap red
	Coprinus sp.2*	cap purple
	Coprinus sp.3*	details not recorded
	Coprinus sp.4*	details not recorded
	Coprinus violaceus	
	Cortinarius aff. violaceus	
	Cortinarius archeri	
	Cortinarius austrovenetus	
	Cortinarius rotundisporus	
	Cortinarius sinapicolor	
	Cortinarius sp.1*	"Telamonia"; cap 30mm, brown
	Cortinarius sp.2*	no detail
	Cortinarius sp.3*	no detail
	Cortinarius sp.4*	no detail
	Cortinarius sp.5*	no detail
	Cortinarius sp.6*	no detail
	Cortinarius sp.7*	no detail
	Cortinarius sp.8*	no detail
	Crepidotus sp.	
	Cyptotrama asprata	
	Dyctiopanus rhipidium	
	Gymnopilus sp.1*	no detail
	Gymnopilus sp.2*	no detail
	Gymnopilus sp.3*	no detail
	Hebeloma sp.	
	Hoenhubuehelia sp.	cap to 8mm, greyish
	Hygrocybe cantharellus	
	Hygrocybe sp.1*	cap to 15mm, lilac; dry stem lilac,
	Hygrocybe sp.2*	cap to 50mm, creamy brown,
	Hypholoma aurantiaca	
	Hypholoma fasciculare	
	Inocybe sp.	cap light brown, scaly
	Inocybe sp.1*	no details given
	Inocybe sp.2*	no details given
	Laccaria sp.	
	Lactarius aff. cepiatus	
	Lactarius aff. piperatus	very peppery milk
	Lactarius aff. subducis	
	Lactarius clarkei	
	Lactarius eucalypta	
	Lactarius sp.	
	Lactarius sp.1*	no details given
	Lactarius sp.2*	no details given
	Lactarius sp.3*	no details given
	Lepiota sp.	cap to 10mm, white w minute pale
	Lyophyllus sp. ?	no details given
	Macrolepiota sp.	
	Marasmius elegans	
	Marasmius sp.	
	Mycena pura	
	Mycena sp.1*	cap to 10mm, pallid
	Mycena sp.2*	cap to 20mm, dark brown

	Mycena sp.3*	no details
	Mycena sp.4*	no details
	Mycena sp.5*	no details
	Mycena sp.6*	no details
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	Mycena sp.7*	no details recorded
	Mycena viscidocruenta	
	Omphalotus nidiformis	
	Paxillus sp.	
	Pleurotis sp.	
	Pluteus lutescens	
	Pluteus sp. ?	cap dark greyish brown
	Psathyrella sp.	
	Rickenella fibula	dark brown
	Russula flocktonia	
	Russula sp.1*	cap red, stem faint pink, gills white
	Russula sp.2*	cap purplish, stem v. pale pink,
	Russula sp.3*	cap - green tinge
	Strobilomyces sp.	
	Tricholoma sp.	cap to 60mm, brownish grey
	Tricholoma sp.1*	grey
	Tricholoma sp.2*	large, greyish brown
	Tricholoma sp.3*	cream colour
	Troga straminea	
	Trogia sp.	
Order	**Aphyllophorales**	
Class	Basidiomycetes	
	Stereum hirsutum	
Class	Homobasidomycetes	
	"clavaria" sp.	simple, red
	Amauroderma rude	
	Cantharellus cibarius	
	Cantharellus liliacinus	
	Craterellus cornucopoides ?	
	Cymatoderma lamellatum	
	Fomitopsis ochroleuca	
	Hexagonia tenuis	
	Hydnum crocidens	
	Irpex sp.	
	Irpex zonatus	
	Irpex zonatus ?	
	Microporus melanopus	
	Phellinus sp.	
	Phellodon niger ?	
	Phellodon sp.1*	
	Phellodon sp.2*	
	Pycnoporus coccineus	
	Ramaria ochraceo-salmonicolor	Coral fungus
	Ramaria sp.1*	branched once, pinkish
	Ramaria sp.2*	no details given
	Ramaria sp.3*	no details given
	Ramaria sp.4*	no details given

	Ramaria sp.5*	coraloid, branched 2-3 times,light
	Ramaria sp.6*	Coraloid branched 4 times, pallid
	Ramaria sp.7*	no details given
	Ramaria sp.8*	no details given
	Schizophyllum commune	
	Stereopsis hiscens	
	Trametes hirsuta	
	Trametes sp.	rust brown cap, pores cream
	Trametes versicolor	
Order	**Lycoperales**	
Class	Gasteromycetes	
	Geastrum sp.1*	no details given
	Geastrum sp.2*	no details given
	Lycoperdon sp.	
	Order	**Lycoperdales**
Class	Gasteromycetes	
	Moryganella sp.	
Order	**Pezizales**	
Class	Discomycetes	
	Discinella terrestris	
	Jafneadelphus ferrugineus	
Order	**Phallales**	
Class	Gasteromycetes	
	Aseroe rubra	
Order	**Polyporaceae**	
Class	Basidiomycetes	
	Polyporus vernicolor	
Order	**Sclerodermatales**	
Class	Gasteromycetes	
	Scleroderma sp.	
Order	**Sphaerales**	
Class	Pyrenomycetes	
	Daldinia concentrica	
	Hypocrea	
Order	**Tremellales**	
Class	Heterobasidomycetes	
	Tremella mesenterica	

Appendix 7: Biodiversity actions and responsibilities

This appendix contains a list of actions that Council and others need to address over the next 3 years and beyond to help achieve our biodiversity objectives. A focus has been given to the actions of Council, being those activities we can directly influence and control. Relevant State agencies and community participation has also been included as collaborative projects.

These actions have been divided into four broad areas:

1. Planning, policy and regulation
2. Research
3. Education and community involvement
4. Operational programs

This appendix is designed to be reviewed and updated annually as part of Council's daily operational programs. Key actions from this section can be incorporated in the Ku-ring-gai Council's annual 5 year Management Plan as Key Performance Indicators (KPI). This operational section can be updated annually as a matter of course without the need for public consultation as would be required if the adopted strategy were to be altered.

Table 7(A). Planning, policy and regulation

Strategy 1. ***Further integrate and incorporate biodiversity management principles into all relevant planning instruments, development control plans, policies and operational plans and work programs across Council.***

Actions	Preparation of the Ku-ring-gai Comprehensive LEP in accordance with NSW government requirements	**Timeframe:** Year 2-5	**Responsibility** Department of Planning
	1. Update Council's Management Plan (currently 2005-2009) (Occurs annually).	**Timeframe:** Year 1	**Responsibility** Ku-ring-gai Council Governance
	2. Update Council's Open Space Strategy 2005 (Review maybe not update).	**Timeframe:** Year 2	**Responsibility** Ku-ring-gai Council Open Space
	3. Identify and list all planning Council instruments, policies DCPs, guidelines, and SOPs etc to include reference to this biodiversity strategy in.	**Timeframe:** Year 1	**Responsibility**
	4. List and prioritise relevant documents that do not already have biodiversity management principles included and those that do but require updating. Set realistic timeframes for the amendment of relevant documents including time for submission to Council and public exhibition where required.	**Timeframe:** Year 2	**Responsibility** Ku-ring-gai Council Open Space Ku-ring-gai Council Planning
	5. Identify what plans, policies and procedures would benefit from the inclusion of specific biodiversity facts sheets or guidelines. Identify the types of information that could be included.	**Timeframe:** Year 3	**Responsibility** Ku-ring-gai Council Open Space Ku-ring-gai Council Planning DEC
	6. Create a cadastral map for planning, development and operational purposes that identifies biodiversity hotspots, environmentally sensitive areas, threatened species habitat, corridors, biolinks and endangered ecological communities. Create guidelines and triggers for use of the map and actions required by Council, developers and residents. To be done in consultation with key departments.	**Timeframe:** Year 2	**Responsibility** Ku-ring-gai Council Open Space Land Information NSW RFS DEC
	7. Expand DA assessment process view to encompass a wider focus to include the local setting, biolinks and environmentally sensitive areas.	**Timeframe:** Year 2	**Responsibility** Development Control Ku-ring-gai Council Open Space Ku-ring-gai Council Planning

Strategy 2. ***Investigate the rezoning of key Council lands for the benefit of biodiversity.***			
Actions	8. Continue the unused roads in bushland reserves rezoning project and have two unused road reserves reclassified per year.	**Timeframe:** Ongoing	**Responsibility** Ku-ring-gai Council Technical Services Ku-ring-gai Council Planning DMR
	9. Identify council lands that would benefit biodiversity via their declaration as fauna refuges under the *Companion Animals Act 1998*. (Refer to/ liase with the Bushland, Catchements and Natural Areas Reference Group and Companion Animals Committee for appraisal).	**Timeframe:** Year 2	**Responsibility** Ku-ring-gai Council Open Space Ku-ring-gai Council Regulatory Services Companion Animals Committee
Strategy 3. ***Targeted regulation and education programs in Council reserves and the urban–bushland interface to help reduce human impacts.***			
Actions	10. Dogs and cats in bushland – update or create brochures, increase signage and carry out routined regulatory program where necessary.	**Timeframe:** Year 2 Ongoing	**Responsibility** Community Ku-ring-gai Council Open Space Regulatory Services Companion Animals Committee
	11. Dumping and encroachment program – update or create brochures, increase signage and carry out routine regulatory program where necessary.	**Timeframe:** Year 2 Ongoing	**Responsibility** Community DEC Ku-ring-gai Council Open Space Regulatory Services

Table 7(B). Research

Strategy 1. ***Increase our knowledge of local species diversity and identify biodiversity "hotspots", biolinks and corridors for greater protection and enhancement.***

Actions	1. Continue collection of biodiversity data including - aquatic and terrestrial flora, fauna and fungi species and ecological communities. In particular gather more data on invertebrate taxa such as insects.	**Timeframe:** Year 1 and ongoing	**Responsibility** Ku-ring-gai Council Open Space DEC Regional Councils
	2. Identify and map local biodiversity "hotspots", priority conservation areas and existing or potential biolinks and corridors.	**Timeframe:** Year 2	**Responsibility** Ku-ring-gai Council Open Space DEC
	3. Further research into optimal buffer sizes for riparian zones and urban interface interactions with biodiversity and impact minimisation.	**Timeframe:** Ongoing	**Responsibility** Ku-ring-gai Council Open Space DNR CMA
	4. Research the accuracy/ effectiveness of current environmental monitoring programs and look into the use of surrogates and indicator species for developing a single biodiversity index.	**Timeframe:** Year 2	**Responsibility** Ku-ring-gai Council Open Space
Strategy 2. ***Increase our knowledge and understanding of genetic erosion and provenance pertinent to local species and ecosystems so we can better manage biodiversity and plan seed collection and planting programs.***			
Actions	5. Investigate the potential to engage a post-graduate student or professional researcher to collect, collate and analyse genetic data relevant to local species and their management.	**Timeframe:** Year 3	**Responsibility** Ku-ring-gai Council Open Space
	6. Research the feasibility and genetic/ conservation implications of possible translocation and re-introduction of locally extinct fauna species to local reserves.	**Timeframe:** Year 2	**Responsibility** Ku-ring-gai Council Open Space DEC CMA

Actions	7. Develop a set of guidelines for long-term/ adaptive management to deal with potential local impacts and consequences of global climate change.	**Timeframe:** Year 3	**Responsibility** Ku-ring-gai Council Open Space Ku-ring-gai Council Planning
Strategy 3. ***Manage local provenance and populations.***			
	8. Research and develop best practice guidelines for local provenace and species translocation (flora and fauna) for use in operational programs and policy documents.	**Timeframe:** Year 3	**Responsibility** Ku-ring-gai Council Open Space
Strategy 4. ***Plan for and ameliorate the impacts of long-term climate change.***			
Actions	9. Research the potential local impacts and consequences for Council of global climate change.	**Timeframe:** Year 2	**Responsibility** Ku-ring-gai Council Open Space Ku-ring-gai Council Planning DEC CMA

Table 7(C). Education and Community Involvement 2005-2006

Strategy 1. ***Expand and coordinate all education programs and activities to promote ESD and biodiversity conservation principles to all: age groups, ethnic backgrounds, socio-economic background or other demographics.***

Actions	1. Extend bushland education programs to hold regular activities in key natural area reserves in all sub-catchments encompassing all socio-economic ages, classes and ethnic demographics.	**Timeframe:** Year 1	**Responsibility** Ku-ring-gai Council Open Space Ku-ring-gai Council Planning Community
Actions	2. Increase the level of understanding of natural area users about biodiversity and conservation values of bushland reserves and the potential impacts recreational uses and urban processes can have. This may include interpretive signage, education programs, brochures or fact sheets and regulatory activities etc.	**Timeframe:** Ongoing	**Responsibility** Ku-ring-gai Council Open Space Ku-ring-gai Council Planning Regulatory Services DEC

Strategy 2. ***Facilitate greater engagement of Council staff, the community and other land managers, in biodiversity planning and management.***			
Actions	3. Investigate possibilities and options for the implementation of incentive initiatives and programs to maintain or enhance biodiversity on private lands.	**Timeframe:** Year 2	**Responsibility** Ku-ring-gai Council Open Space Ku-ring-gai Community DEC
	4. Continue to provide and expand the use of presentations and workshops on biodiversity and ESD for staff both in-house and external.	**Timeframe:** Ongoing	**Responsibility** Ku-ring-gai Council Open Space Ku-ring-gai Council Planning
Strategy 3. ***Continue existing and seek new community partnerships to help increase knowledge and protection of biodiversity.***			
Actions	5. Investigate opportunities and options for voluntary conservation agreements.	**Timeframe:** Year 2	**Responsibility** Ku-ring-gai Council Open Space Ku-ring-gai Council Planning DEC CMA
	6. Continue and further encourage participation of residents and NGO's (local conservation groups) to participate in Council committees, public meetings and workshops related to biodiversity, bushland reserves management and policy development.	**Timeframe:** Ongoing	**Responsibility** Ku-ring-gai Council Open Space Planning CMA DEC
Strategy 4. ***Investigate possibilities and options for the implementation of incentive initiatives and programs to maintain or enhance biodiversity on private lands.***			
Actions	7. Compile data on existing incentive programs and look at the feasibility and resourcing issues for Council to implement a program in our LGA.	**Timeframe:** Year 2	**Responsibility** Ku-ring-gai Council Open Space Ku-ring-gai Council Planning Governance
	8. Continue community programs, such as Face to Face, Backyard Buddies and Wildlife Watch, aimed at assisting residents to improve local biodiversity and to raise awareness of biodiversity issues on private lands. Investigate options for continued long-term funding by Council or via grants.	**Timeframe:** Ongoing	**Responsibility** Ku-ring-gai Council Open Space

Table 7(D.) Operational programs

Strategy 1. ***Review, update and amend relevant work programs and projects in relation to biodiversity and best current practice.***

Actions	1. Annual review and update of pest animal and weed control programs, Bushcare, bush regeneration and bushfire management programs.	**Timeframe:** Ongoing	**Responsibility** Ku-ring-gai Council Open Space Operations DEC
	2. Environmental Monitoring – continue to monitor biodiversity outcomes and collate data for reporting in SOE and on our website.	**Timeframe:** Ongoing	**Responsibility** Ku-ring-gai Council Open Space Ku-ring-gai Council Planning DEC Regional Councils

Strategy 2. ***Ensure Council is using best practice in its works programs.***

Actions	3. Compile a list of Councils environmental practice guidelines and SOPs and identify those that require updating or inclusion best practice guidelines.	**Timeframe:** Year 2	**Responsibility** Ku-ring-gai Council Open Space Ku-ring-gai Council Planning

Strategy 3. ***Protect and enhance connectivity between isolated natural areas and national parks including riparian zones.***

Actions	4. Ensure annual bush regeneration, weed control, and planting programs in Council bushland, parks and other reserves include some areas that form part of a vegetation/ habitat corridors or biolinks where possible.	**Timeframe:** Ongoing	**Responsibility** Ku-ring-gai Council Open Space Trees and vegetation section Ku-ring-gai Council Planning DEC CMA
	5. Where relevant ensure planting programs for Council parks, garden, sports fields and nature strips consist of local indigenous species and include more structural planting (IE ground and shrub layers etc).	**Timeframe:** Ongoing	**Responsibility** Ku-ring-gai Council Open Space Trees

Strategy 4. ***Ameliorate the impacts of Council maintenance programs.***			
Actions	6. Continue to assess and modify mowing programs / contracts along edges in bushland reserves and bushland remnants in parks etc.	**Timeframe:** Annually	**Responsibility** Ku-ring-gai Council Open Space DEC CMA DNR
Strategy 5. ***Coordination of pest animal Control Programs on all Council and public lands.***			
Actions	7. Better define responsibilities and resource allocation for bushland, parks, sports fields, and urban / residential areas	**Timeframe:** Year 2	**Responsibility** Ku-ring-gai Council Open Space Regulatory Services
	8. Seek further collaboration for regional control pest animal control programs EG Indian Mynahs	**Timeframe:** Year 1	**Responsibility** Ku-ring-gai Council Open Space Regulatory Services Community