MIDCOAST council

Ecology of North Arm Cove

Presentation by Mat Bell

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Firstly, I would like to pay my respects to the Worimi people; the traditional owners of these lands.

I would also like to thankyou for attending. Your interest in biodiversity and habitat for wildlife is very much appreciated.

North Arm Cove and surrounds is a unique and special place. If we start to think about what are the attributes that contribute to this, it is the biodiversity; the ecological values that strongly contributes to the area's character.

Green spaces and blue spaces. Firstly, we have Port Stephens, a nationally-important wetland and productive and beautiful coastal estuary system. It receives inflows from the Karuah and Myall Rivers and contains the Port Stephens – Great Lakes Marine Park. Additionally, we have green spaces, like Mount Karuah Nature Reserve, part of Myall Lakes National Park near Fame Cove and larges areas of private bushland. I understand that the Biodiversity Conservation Trust has recently purchased land at Goreengi Road for conservation purposes.
All of these elements combine.
These green and blue fabrics support a significant diversity of plants and animals which also provide a range of ecosystem services and functions. Importantly, this include assisting protect water quality Port Stephens estuary. These fabrics contribute to the regional economy through nature-based tourism, the value of our neighbourhoods and our enviable ways of life.
All of the different villages have special character and amenity; framed by these biodiverse, wild places.

Benefits of greenspace

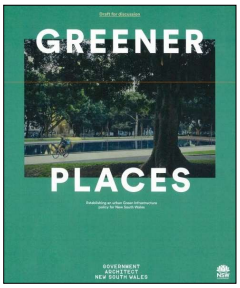
Why is urban greenspace important?

"We want all suburbs to have an established tree canopy, well-designed parks and connected open spaces. Green assets do more than just look good; they create healthier, safer and more prosperous places"

– NSW Government - *Greener Places* (2018)

"Green space is a hallmark of liveability"

– NSW Government - *Greener Places* (2018)



The term "urban greenspace" is defined as the range of urban vegetation including not only parks and open space, but street trees, residential gardens, and in fact any vegetation found in the urban environment

The MidCoast community already recognises the value of the natural environment.

You have expressed this clearly in the MidCoast 2030 Shared Vision, Shared Responsibility Community Strategic Plan 2018-2030 (MidCoast Council, 2018) which states:

"We strive to be recognised as a place of unique environmental and cultural significance. Our strong community connection, coupled with our innovative development and growing economy, builds the quality of life we value."

Within the community strategic plan, one of the key values is that "our natural environment is protected and enhanced, while we maintain our growing urban centres and manage our resources wisely".

Obviously overseeing and planning for growth and development are also fundamental actions for Council and the Plan seeks to Ensure growth and new development complements our existing natural assets, cultural assets and heritage sites

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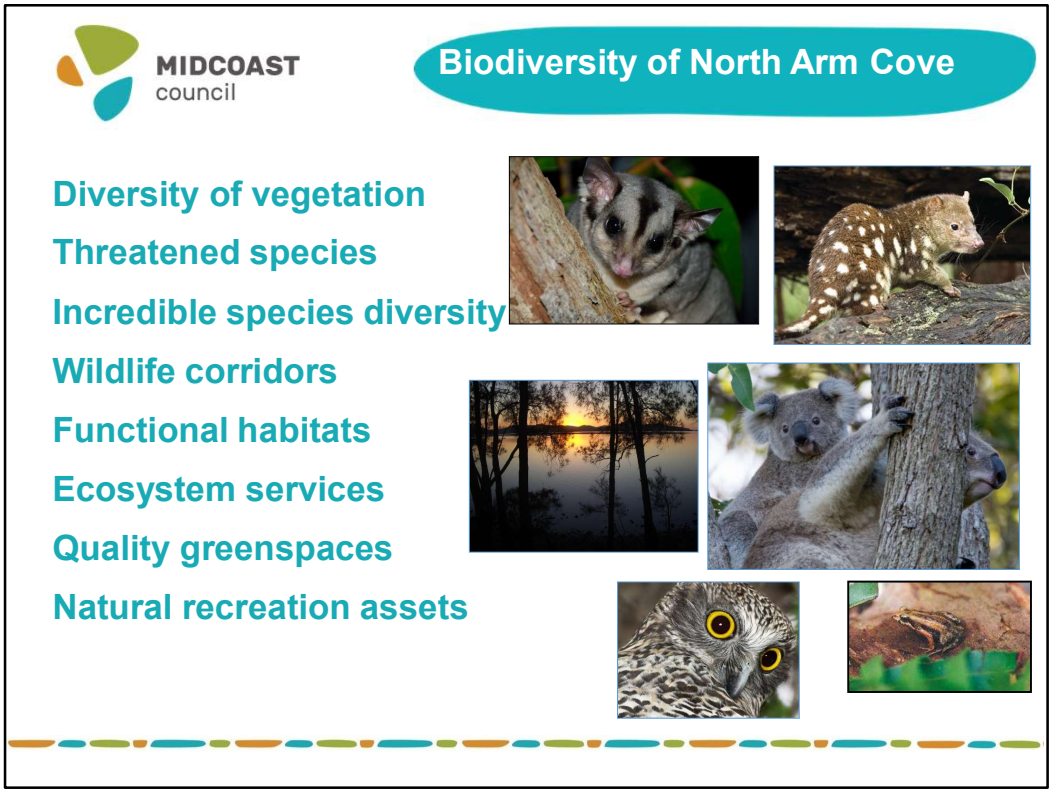
Benefits of greenspace

- Air quality services
- Water quality services
- Urban cooling effects
- Physical and mental health
- Liveability
- Scenic landscape and amenity
- Habitat for wildlife
- Connects people and nature
- Increases property values

There is now significant recognition at scientific and community levels of the importance of greenspaces.

Trees and vegetation provide air quality services (pollution removal, carbon sequestration)
They promote cleaner waterways (erosion controls, nutrient and pollution removal, run-off reduction)
They provide urban cooling effects and decreased sun exposure (trees lower urban temperatures and can assist reduce domestic artificial cooling costs)
They enhance the physical health of the community (nature-based recreation, children outdoor-play)
They enhance the mental health of the community (reduced stress, improved recovery from illness and injury, positive response to nature deficit-disorder in children)
They promote liveability in communities and neighbourhoods (reduced ambient noise, reduced vehicle driving speeds on tree-lined streets)
They promote social and community stewardship (neighbourhood pride and stewardship, volunteerism)
They enhance the scenic landscape and amenity of urban areas and can provide separation between land uses
They promote a connection between people and nature
They contribute to quality urban development
They increase property values (by up to 20%)
They provide habitat for native wildlife (biodiversity conservation including threatened species)



In North Arm Cove and surrounds, there is a great diversity of vegetation types, including littoral rainforest. This is distinct because it is influenced by Port Stephens, an estuary, rather than the ocean. We also have estuarine and freshwater wetlands, dry forests, wet forests and shrublands.

This range of vegetation types influences a great diversity of animal species, including important populations of threatened species.

This region is also at the boundary between temperate zones and tropical zones and this influences the biodiversity of the area, with many species present that are at the limit of their known ranges.

Notable threatened species include koalas, glossy black-cockatoos, squirrel gliders, powerful owls, swift parrots, wallum froglets and white-bellied sea- eagles. Discuss…

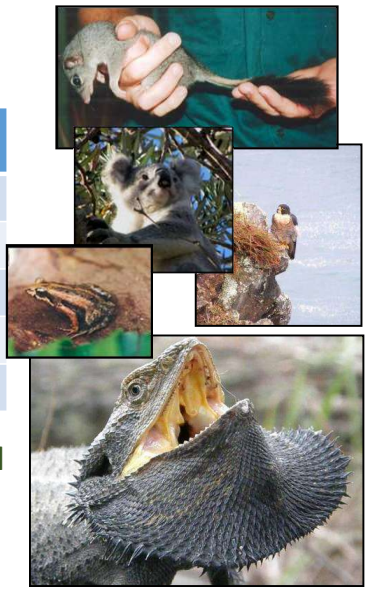
Koalas locally rely on species such as forest red gum, tallowwood, grey gum and swamp mahogany.

Glossy black-cockatoos rely on fruiting Allocasuarinas; namely forest oak (Allocasuarina torulosa) and black oak (Allocasuarina littoralis), as well as trees with very large hollows. Hollow-bearing trees are critically important habitat resources.

Great Natural Diversity

Very high biological diversity; a **truly special** place:

Biodiversity Type	No. of species known in Great Lakes	% of Australia's total no. of species
Native Plants	1,315+	5%
Mammals	67	25%
Frogs	38	18%
Reptiles	59	7%
Birds	303	41%



22% of the area is reserved in National Parks/ Nature Reserves

73% of the area contains native vegetation

There is still much that we do not know with respect to biodiversity.

What we do know is that the Great Lakes is a region of very high biological diversity. It is a special place. We are located in a landscape that receives influences from tropical and temperate areas and includes coastal, estuarine, marine, riverine and slopes/ ranges landscapes supporting a great variety of species and communities.

We know there are at least 1,315 individual species of native plants in the Great Lakes region (as perspective, we have about 5.4% of Australia's total native plant diversity in an area that comprises 0.04% of Australia's land mass)

Mammals: 67 species, which is 25% of the total of Australia's total number of living native species
Frogs: 38 species
Reptiles: 59 species
Birds: 303 species

The Great Lakes is also a highly productive landscape with regards to primary production (fish, oyster, grazing and timber production) and an area which provides a desired and attractive lifestyle for residents and visitors. A relatively low population density and significant natural assets underpin this. The area is a outdoor-recreational playground.

There have been serious impacts to biodiversity but it is fair to say that with respect to nature and biodiversity we are much, much luckier and in a much better place than many other regions.

We have relatively large areas of region in public reserves (compared to the rest of NSW) and we have a Marine Park. Rates of natural vegetation retention are very high compared to many regions. No wonder we are a natural paradise.

So, we are, quite simply, extraordinary.

Threats to biodiversity

Clearing
Habitat fragmentation
Habitat degradation
Weeds and feral/ exotic animals
Disease
Altered fire
Altered hydrology
Pollution
Human impact or exploitation
Climate change

Clearing of habitat and impacts of exotic species are the two greatest threats to biodiversity in Australia.

Threats act cumulatively and synergistically.

For example, clearing of koala habitat causes a reduction in range and exacerbates stress. Stressed populations are vulnerable to disease which reduces breeding rates and increases mortality. Wild fire can then have a bigger impact on the remaining population and fragmentation of habitat can limit recolonization…

Disease – can arise at any time – like Tasmanian Devil facial tumour disease.

What does Council do for biodiversity?

Development assessment/ controls
Strategic planning
Tree protection
Incentive and community programs
Weed and feral pest programs
Land acquisition and restoration
Reserves management
Plan/ strategy implementation
Education
Applied research
Environmental Special Rate

Good

Areas of National Parks (10.3% - better than average) + Marine Park	✓
Relatively high overall rate of native vegetation retention (72.8%)	✓
Some vegetation communities appear well-retained	✓
Catchment and water-quality improvement programs	✓

Bad

Certain ecosystems have been heavily lost, fragmented or modified	×
Many species and populations declining and are not adequately conserved	×
No systematic conservation framework (residual reservation)	×
Climate change impacts	×
Impairment of ecological processes in many areas	×
Pests and weeds – inadequate resources for coordinated control	×
Development and land use pressures (and diminishing legal protections)	×
Biodiversity decision-making geared towards avoiding "*significant*" impacts	×
No Biodiversity Strategy	×
Inadequate data/ information/ applied research	×
Political uncertainty regarding biodiversity management	×

So, we must consider ourselves lucky, geographically and biologically. This comes with responsibilities for us, as custodians of the extraordinary!

It is not all good news though. Patterns of clearing have disproportionately affected certain ecosystems, which have been have been heavily lost, fragmented or modified, much biodiversity remains in decline and are not adequately conserved, there is no systematic conservation framework, there are impending climate change impacts, there are development and land use pressures, we don't have an adopted Biodiversity Strategy and we have inadequate data/ information/ on which to base many active decisions. Also, patterns of public land reservation are directed away from "fertile" or "productive" landscapes and to land traditionally thought of as "having no other use". Dr Bob Pressey, an eminent conservation ecologist, calls this, residual reservation.

We need to recognise that there has been this significant impact from settlement, infrastructure and production, which has degraded biodiversity and impaired ecosystem function. However, we are continually learning about how our landscapes function and with this knowledge, we can deploy, collectively, management strategies to support the future health of the landscape along with sustainable production and development.

But our area is extraordinary; and we can be good custodians.

What can residents do?

- Be engaged and be an active steward for nature
- Participate in conservation at any scale
- Conserve and manage habitat for wildlife
- Report sightings of significant plants and animals
- Control weeds and feral pest animals
- Erect and maintain nesting boxes
- Control domestic animals
- Report potentially unlawful activities
- Participate in planning processes
- Advocate for positive change
- Be informed

How do backyards contribute?

Bad backyards

Source of weeds + free-ranging domestic pets ☹
Source of pollution ☹
Impact the amenity/ value of neighbourhoods ☹

Good backyards

Contribute to the aesthetic landscape ☺
Provide habitat for urban native wildlife ☺
Enhance local property values ☺
Invoke pride of place ☺
Functionally contribute to natural processes ☺

The message is that we can all make a truly positive contribution to the survival of our native fauna and flora by sharing our gardens with the wild creatures of our local bushland.

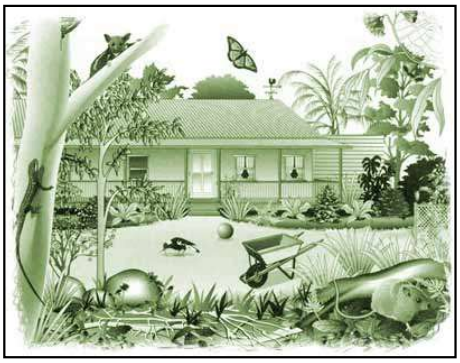
The greatest threat to our native wildlife is the loss of habitat. The most dramatic impacts on the habitat of our native animals are from weed invasion and land clearing.

I do wish to add a pragmatic note; that the safety of life and property is paramount and there is no place for dangerous trees, unmanaged land, unacceptable bushfire risk and the like in the urban context. Further, while I encourage the use of local native plants, there is not a problem using exotic, cultivars and hybrids or non-local native plants in gardening provided that they are not an invasive plant.

There are a lot of Councils adopting Backyard Bushcare and Wildlife Friendly gardens programs and there is a lot of information online to assist interested landholders.

What does a good backyard include?

- It is as big or as small as your space allows
- It includes a range of native plants from different vegetation layers including seed and fruit plants
- It includes leaf mulch areas
- It includes habitat shelter such as rocks, logs and nesting boxes
- There are some fresh water sources
- Chemical use is avoided or minimised
- Domestic pets are controlled and on curfew
- It is a place of pride and reflection
- **It is free of noxious and environmental weeds**



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Questions

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