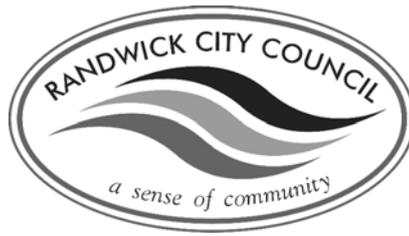


WORKS COMMITTEE MEETING

BUSINESS PAPER

TUESDAY 12 FEBRUARY 2008

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4 February 2008

WORKS COMMITTEE MEETING

Notice is hereby given that a Works Committee Meeting of the Council of the City of Randwick will be held in the Council Chamber, Town Hall, 90 Avoca Street, Randwick, on Tuesday, 12 February 2008 at 6:00pm.

Committee Members: The Mayor, B Notley-Smith, Andrews, Belleli (Deputy Chairperson), Hughes (Chairperson), Matson, Seng, Tracey, White.

Quorum: Five (5) members.

NOTE: At the Extraordinary Meeting held on 28 September 2004, the Council resolved that the Works Committee be constituted as a committee with full delegation to determine matters on the agenda.

Apologies/Granting of Leave of Absences

Confirmation of the Minutes

Works Committee Meeting - 4 December 2007

Declarations of Pecuniary and Non-Pecuniary Interests

Address of Council by Members of the Public

Urgent Business

Works Reports

W1/08 Tree Canopy Cover Maps - Randwick LGA..... 5

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Ray Brownlee
GENERAL MANAGER

Works Report No. W1/08



Subject: Tree Canopy Cover Maps - Randwick LGA

Folder No: F2004/07359

Author: Tree Management Officer - Bryan Bourke

Introduction

In September, 2007, Council's tree management section resolved to conduct a tree canopy analysis across the entire Randwick LGA to determine the percentage of vegetative cover within the City and to allow observation and analysis of temporal variations of canopy cover over proceeding years.

Issues

In order to implement the Urban Forest Policy adopted by Council on 11 September, 2007, it will first be necessary to map and assess existing total canopy cover within the City so that a strategy can be developed to meet any designated canopy cover targets.

Council's Tree Management Officer, in conjunction with Council's Land and Spatial Information section, contracted AAMHatch to conduct a field study of City-wide vegetation and it undertook that study using a fixed wing aircraft (utilising Airborne Laser Scanning) on 18 December, 2007.

Laser strikes were classified into ground and non-ground points using a single algorithm across the project area. Further algorithms were run over the non-ground data to separate building strikes and vegetation strikes greater than one metre above ground height.

The vegetation strikes* were further classified into height ranges of:

- 1.5m – 3.0m
- 3.0m – 6.0m
- Greater than 6.0m

* The vegetation strikes were classified to an 80% accuracy rate.

AAMHatch then used the vegetation strikes to create polygons for the locations of the tree canopies within the different height ranges. Due to concerns about a potential diminution in accuracy, polygons detailing areas less than two metres square were filtered out of the data. ESRI shapefiles were then created containing the polygons - classified into the three height ranges.

The data was then supplied to Randwick City Council on CD (with accompanying Data Documentation) in December, 2007. The Land and Spatial Information section imported the data and conducted visual analysis.

Three problems were identified with the data:

- The data overlapped the Randwick LGA boundary to the extent of the aerial photography
- The different classifications of canopy heights appeared to overlap each other

- A small percentage of non-vegetation polygons were created, and some vegetation areas were missed

After careful analysis it was decided to erase the overlapping areas and to clip the polygons to the LGA boundary. In residential areas the incorrect and missed polygons appeared to even each other out, so it was decided to leave these as supplied.

Spatial analysis and area calculation were then conducted by Randwick City Council's Land and Spatial Information section using the methodology outlined below.

The area of Randwick LGA is calculated as 37.42 square kilometres. The three overlapping tree canopy layers were trimmed to the Randwick LGA boundary, and the resulting vegetative area was determined to be 5.67 square kilometres.

The overlapping canopy areas were then erased and spilt into the three height ranges.

The 1.5m-3.0m range totalled 1.22km² - representing 3.26% of the LGA
 The 3.0m-6.0m range totalled 1.57km² - representing 4.20% of the LGA
 The greater than 6.0m range totalled 2.87km² - representing 7.67% of the LGA.

The resulting total area of canopy was determined as 5.67km² - representing 15.15% vegetative canopy cover over the Randwick LGA.

The total canopy area was then divided into vegetative height and this comprises the following percentages:

- 1.5m-3.0m in height: 21.5%
- 3.0m-6.0m in height: 27.8%
- Greater than 6.0m in height: 50.7%.

Relationship to the City Plan

The relationship with the City Plan is as follows:

Outcome 10: A Healthy Environment.
 Direction 10c: Land use planning and management enhances and protects biodiversity and natural heritage.
 Key Action: Enhance wildlife corridors throughout the City, linking and enhancing local native flora and fauna habitats.

Financial impact statement

This mapping project cost in the vicinity of \$10,000 and this came from Council's annual tree management budget.

Conclusion

In order to be able to set achievable tree planting targets in relation to any objectives that may be contained within Council's Urban Forest Policy it will be necessary to have appropriate data detailing the area and percentage of existing vegetative canopy cover within the City.

This information will allow for strategic tree/shrub planting programs to be implemented that will allow designated vegetative canopy cover targets to be met, while at the same time allowing Council to determine any tree canopy loss/diminution brought about as a result of development.

Council's Land and Spatial Information section has incorporated the referred-to tree canopy analysis maps into Council's Eview and GIS map systems for reference.

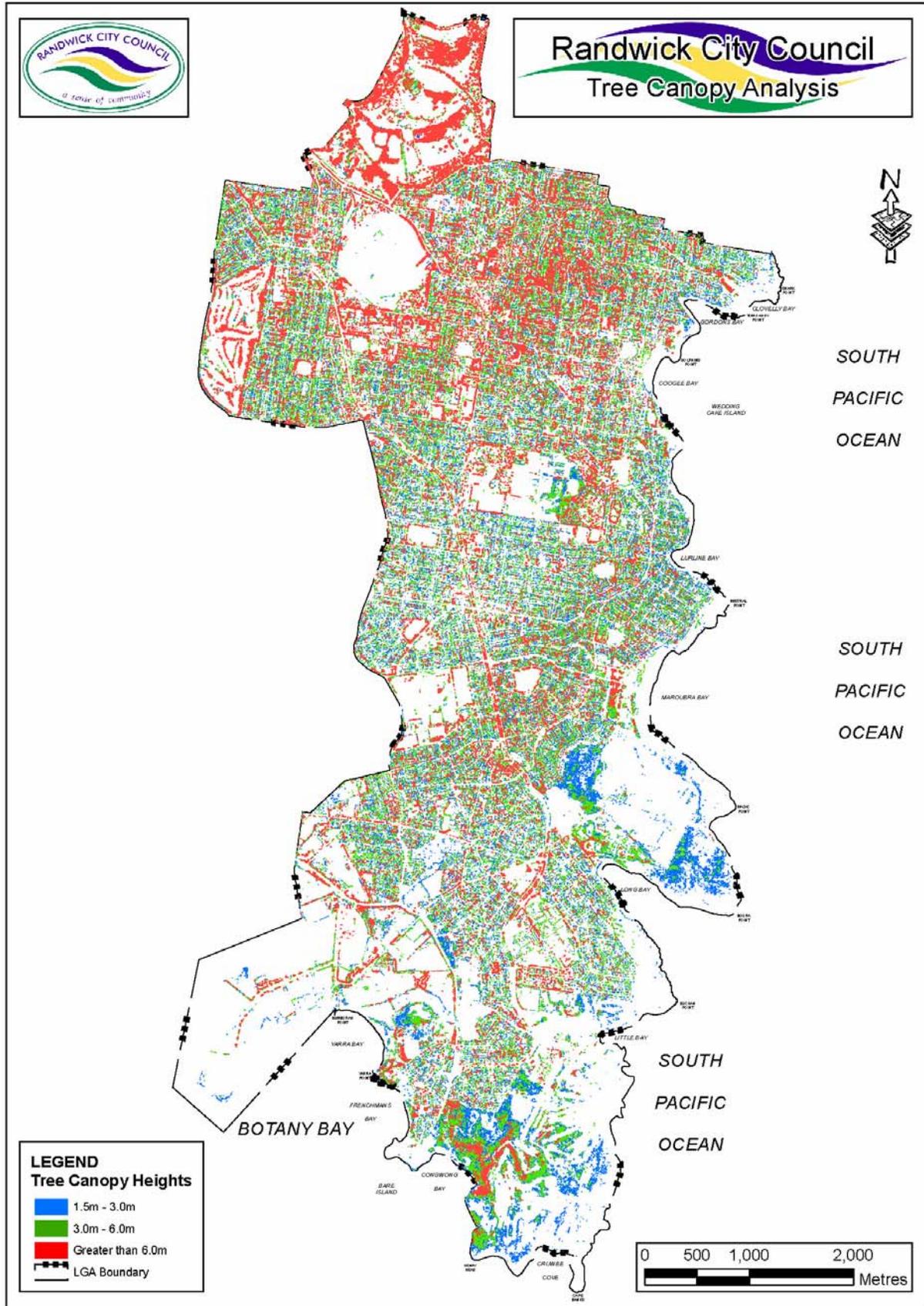
Recommendation

That the report be received and noted.

Attachment/s:

- 1 Randwick City Council Tree Canopy Analysis Map 1 Page

Item W1/08



Item W1/08

W1/08