Mapping Community Landscape Values and Development Preferences in and around Darwin Harbour

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Aim
To identify what Darwin Harbour catchment residents most value in and around Darwin Harbour and to identify where the residents would like to see particular types of development occurring, or not.

Methods
A mail survey was sent to 2000 randomly selected households from within the Darwin Harbour Catchment. The survey included questions on the households’ links to Darwin Harbour, a mapping exercise to identify the households’ landscape values and development preferences, and questions on respondent background (socio-demographics).

The mapping exercise required respondents to place stickers relating to landscape values and development preferences (Figure 2) on a map of the harbour and foreshore (Figure 3).

Surveys were returned, maps were scanned and georeferenced, and spatial landscape values and development preferences encoded into QGIS.

Results
Landscape Values
To date 136 surveys have been returned from the mail-out questionnaire to 2000 homes. Preliminary data entry and analysis for spatial landscape values and development preferences has been conducted on 80 of these 136 returned surveys. A total of 2519 landscape value sticker dots were placed on the 80 supplied maps.

Recruitment, Aesthetic, Biodiversity, and Wilderness values were the highest scoring landscape values (Figure 4).

Aggregated landscape values show highest density around the most populated parts of the harbour (Figure 5).

Individual landscape values show marked differences in their spatial distribution throughout the harbour and along the foreshore (Figure 6). Some values are relatively clustered (e.g. economic value), whilst others are more dispersed (e.g. wilderness value).

Development Preferences
A total of 647 development preference sticker dots were placed on the supplied maps by 80 respondents.

No development was, by far, the highest scoring development preference (Figure 7).

Preferrency for industrial development is clustered around Palmerston and East Arm (Figure 8).

Preferrence for residential and tourism development appears spatially correlated around Palmerston, Darwin City and Mandorah (Figure 8).

Future Directions
Data collection
Preliminary results suggest that respondents do not reflect the general population. The majority are older professionals that have lived in the region for at least 20 years. Further purposive sampling will occur with sectors of the community that have not been well represented in the data, including younger people and Larrakia people. A total sample size of ~300 people from within the Darwin Harbour catchment is the current goal.

Analysis
Landscape values and development preference data will be analysed for spatial correlation and spatial clustering to determine potential synergies and conflicts.

Data collected in the survey, on respondent socio-demographics and respondent links to Darwin Harbour, will be used to explain respondent landscape values and development preferences. This will answer the question of what types of people value what, where, and what types of people have certain development preferences.

Further Research
Parts of the harbour and foreshore that are identified as highly valued (hotspots) will become the focus of future research into predicting threats to landscape values. The aim of this future research is to improve future harbour management.

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