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Mr Malcolm Snow  
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*21 July 2015*

Dear Mr Snow,

**Comments on the Draft of the National Capital Plan Review 2015**

I am pleased to be able to comment on matters in the Draft that I consider require some change and to recommend additions. I appreciate your invitation to do so and I commend my comments to you.

Yours sincerely.

A handwritten signature in black ink, appearing to read 'DMackenzie', with a long, sweeping flourish extending upwards and to the right.

David Mackenzie

# National Capital Plan Review 2015 Draft

Comments by David Mackenzie<sup>1</sup>

## Water Management, Water Quality and Ecology and Other.

22 July 2015

*This document restates some material in the submission from the Lake Burley Griffin Guardians.*

Comments here are primarily about water management, water quality and ecology that apply to Lake Burley Griffin and its catchments. The Lake is included in the NCP's Designated Areas and is declared as a NCOSS Land Use. Some comment on other topics is included.

### **Preamble.**

The Lake's importance is paramount in the landscaped quality of the Griffins' design for The Nation's Capital. Their design effects an environmental quality that is a key feature of Canberra's character and in particular of the Lake. Conserving and enhancing this landscape setting is important in retaining the character of the National Capital and this is one of the National Capital Plan's (NCP) many objectives.

The ecological communities, threatened flora and fauna species, water catchments and water quality of this Designated Area and part of the NCOSS, are to be protected and supported by sustainable resource management.

There are many statements in the Draft National Capital Plan stipulating the need to pursue the sustainability of high environmental standards, maintenance of good water quality in different precincts and there are similar inferences to robust and healthy ecologies. However, they remain largely aspirational; with few exceptions no great detail is devoted to how these conditions should be effected. Generalised recommendations can leave room for evasion of the original intent by parties with a different viewpoint.

However, for the most part, stipulating specific methodologies to address a suite of highly variable problems in the biosphere is not appropriate in the NCP; there should be room to move as the circumstances dictate and the technology develops. These particulars will come from a wide range of other approved sources.

A number of recommendations intended to strengthen the NCP's authority to effect a robust and healthy Lake ecology is offered.

### **1. Strength of intent.**

There is a number of instances where it is fitting then that the NCP makes stronger statements than are contained in much of the Draft. These need to require, where possible, approaches that take its environmental objectives beyond broad intimations of good outcomes and render them more authoritative.

Documents such as the 2011 Water Quality Management Plan for the Lake, the 2012 report from the Commissioner for Sustainability and the Environment and the ACT Government's quite positive 2013 response to it provide

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approaches for injecting greater assertion in setting out the NCP's current aspirations for healthy ecologies without limiting how they might be effected.

**Recommendation 1.**

*A great deal more assertiveness is required in the Draft's statements relating to the maintenance of a robust and sustainable ecology both in the water column and the riparian surrounds of the Lake as well as in its catchment.*

**2. Poor mixing.**

Poor mixing and aeration is common in partially closed embayments. Currents that would normally dilute smaller pollutant doses, disperse sediment deposition and promote aeration through mixing are wholly or partly absent.

**Recommendation 2.**

*The problem of poor dilution, mixing and aeration in partially closed embayments of the Lake must addressed more positively in the Plan.*

**3. Urban runoff.**

Urban runoff and the pollutants it carries (including leaf fall, pet faeces, rubbish) continues to be costly to manage and consequently cleaning activities such as street sweeping become less frequent.

**Recommendation 3.**

*The frequent and thorough preparation for, and treatment of, urban runoff into the Lake requires far more positive coverage in the Draft.*

**4. Water Sensitive Urban Design.**

This is a loose term open to widely differing interpretation. It is invoked in several of the 16 Precinct Codes but apparently not in all Precincts where there is drainage into the Lake, at least not in those terms. WSUD broadly covers the pretreatment of storm water runoff en-route to the receiving water body. Absorbing swales and urban wetlands are examples of features away from the Lake shore. WSUD should be mandatory in all of the Lake's catchment to spread peak runoff discharges and minimise overflow of other structures. WSUD is a constantly improving technology and the latest standards must be continually applied.

**Recommendation 4.**

*The NCP must adopt a goal to apply the latest WSUD technology in all sub-catchments of the Lake's catchment.*

**5. Riparian zones.**

These should be created wherever they are compatible with usage in the Lake's catchment. Zone widths must be determined by the underlying topography where vegetation slows runoff thus giving it greater opportunity to infiltrate the solum and re-emerge in the water body of the Lake, stripped of some or all of the suspended sediment by the filter of the soil and of nutrients in solution by the root system.

The emphasis is on effective function, not on a notional width predetermined by desk-top exercise without reference to the substrate in which the plants are

to grow. In the highly disturbed Lake vicinity, there will be instances where it is necessary to replace the existing substrate with a more permeable, pathogen free soil. Existing riparian zones will need to be augmented, rehabilitated or restored where they have been degraded or destroyed throughout the Lake and its catchment.

***Recommendation 5.***

*The NCP should require that wherever it is feasible to do so, functionally effective riparian zones be established, augmented or restored around the lake's entire foreshore and on the banks of both urban and rural streamlines in the Lake's catchment.*

**6. Macrophyte areas and Riparian zones.**

In 4.12.5, 'The Lake', the protection of shoreline macrophyte areas is proclaimed for several locations. These comprise both planted and natural vegetation and are intended, among other functions, to harbour beneficial instream organisms, trap sediment and absorb polluting nutrient, all of which contribute to water purification.

However, the most effective functional assemblages along a shoreline are where riparian vegetation merges into and links uninterruptedly with a macrophyte zone. The processes operating in each component are similar and in combination they are more effective than either alone in purifying Lake waters. Nevertheless, where the two cannot be conjoined, it is important to establish as much of each as is possible.

This is of necessity a long term goal with continuing development and guaranteed annual maintenance, a unified project to be pursued with vigour. These techniques are well established globally and already examples of both zones, alone and in combination, artificial and natural, exist in the Lake. They need to be assessed to ensure they are functioning to fullest capacity and modified where needed. The suites of plant species may need upgrading and their respective aerial extents may need adjustment.

***Recommendation 6.***

*It is a matter of high priority to strengthen the ecology of the Lake's waters and its surrounds by rehabilitating and extending zones of riparian vegetation and macrophytes to the maximum extent permissible, aiming wherever possible, to link them as assemblages that act to refine both overland and instream waters. Where the two cannot sensibly be linked, then one or the other alone is to be rehabilitated or established. The NCP should stipulate this as a requirement for the entire Lake catchment.*

**7. The Lake and Jerrabomberra Wetland.**

The Draft notes that these adjacent Precincts are linked and one is an integral part of the other. The wetland acts as natural filter and is an important determinant of downstream water quality. The two features enjoy a range of common hydraulic processes and biological assemblages that vary mostly by seasons. Among several existing impacts noted are nutrient transfer into the Lake from cattle grazing in the wetlands and disturbance to sensitive and endangered avifauna in the wetlands from the extremely high density

accommodation nearby.

The Wetland does not appear on many non-specialised maps of the Lake and its role as an integral part of the Lake is not well known by much of the general public. The maintenance and augmentation of the essential functions shared by these two bodies needs strengthening in the NCP. The Draft mentions protection and maintenance of ecological aspects of both water bodies but little to do with their treatment as a combined functional unit.

***Recommendation 7.***

*The NCP needs to emphasise in greater detail the strong interdependence between the two Precincts, Lake Burley Griffin and Jerrabomberra Wetlands, and in particular ensure that planning, development, management and usage are directed, where appropriate, to them as a combined functional unit.*

**Other topics.**

**8. City Hill Precinct - Part 4.6.**

There are considerable doubts concerning the plans for City Hill within the *City To The Lake* concept. City Hill precinct includes University Avenue (a Main Avenue), Ainslie Place and parts of Northbourne, Commonwealth and Constitution Avenues. I understand building heights have been arrived at over some decades of discussion and planning and have been firmly decided, even legislated. This does not assume that the status quo is necessarily appropriate in every context and the hallmark of wise planning and decision making is flexibility, otherwise known as adaptive management.

There are contradictions between the many different statements about the character of this Designated Area and building heights. One or the other has to change and it is less likely that the role of City Hill as a key feature of the National character of Canberra will be changed. Nor should it be. Watering down of its role for high rise building development should never be allowed under any proposal. Griffin stipulated a low horizontal look for Canberra.

Appropriately low profile, stepped back buildings are clearly acceptable but any buildings that mask the view of City Hill from its many viewpoints are most definitely not. The artists impressions if followed as shown (eg Fig 43) will leave nothing but the flag pole visible from all around. City Hill is for the people and the National Capital, not solely for a privileged group of adjacent occupants, offices or residences.

The very high buildings shown in the Framework nearer to City Hill will diminish the vista from Commonwealth Avenue toward City Hill to a mere glimpse of its flagpole. The West Basin proposal has City Hill disappearing and becoming a private courtyard for high building surrounds, lost to the public at large [see *below*].

This matter has been aired more conclusively in one or more other submissions, these words lend further weight to them.

**Recommendation 8.**

*I lodge strong objection to the siting of buildings around City Hill whose heights will block views from it along the Avenues listed above and views of it from the many surrounding vantage points; it must not be obscured in the slightest by buildings. Preservation of the dignity of the Central National Area predominates over commercial development and this must not be violated.*

**9. City to the Lake & West Basin Part 4.7.**

The *Welcome to the Nation's Capital* from the north west begins with the Federal Highway (Approach Route) and continues along Northbourne Avenue to Commonwealth Avenue (both are Main Avenues) ultimately leading to Parliament House. This (almost) ceremonial drive offers both pedestrians and motorists a differing range of high class views.

The jewel in this crown is the exit from Vernon Circle into Commonwealth Avenue. The view unfolds across the Lake, with sailing craft and the Captain Cook Water Jet to the left and on the right, glimpses through the fringing trees of the Lake, rising to the undisturbed Inner Hills, the mysteriously hidden Murrumbidgee River, Bullen Range and the Brindabella Range until Parliament House majestically comes into view. On crossing Commonwealth Bridge the distant views give way and the view is directed along the boulevard route to the focal point of Parliament House.

From the opposite direction the unfolding vista is in reverse, along Commonwealth Avenue and the focus is City Hill, one of the major vertices of the National Triangle.

This globally publicised panorama is a hallmark of Canberra's special attractions and must be jealously protected at all cost.

A major concern, shared by many including some who have already submitted their concerns to the LDA, is illustrated by the LDA's online Interactive Master Plan for the West Basin Project and in existing and ultimate condition figures from the City to Lake Site-wide Master Plan (courtesy ACT Urban Renewal). They demonstrate how much of the significant vista just described will be masked by the buildings proposed for the strip between northern Commonwealth Avenue and the West Basin Foreshore. The dramatic interspersions of these tall buildings blocks will turn key segments of the drive into an ordinary cityscape.

Conversely, the view from the West Basin Foreshore will be of a concrete wall of buildings cutting out any view through the trees of Commonwealth Avenue. The West Basin Foreshore is for the public and only a limited number of well set back, low and unobtrusive buildings can be allowed.

**Recommendation 9.**

*The building heights between Commonwealth Avenue and the West Basin Foreshore (Point Park) must be constrained to allow an uninterrupted view from Commonwealth Avenue across to the Inner Hills and the Bullen and Brindabella Ranges. Heights must be lowered progressively to accommodate the varying gradient of Commonwealth Avenue and their architecture requires to be unobtrusive in sympathy*

David Mackenzie  
22 July 2015

**APPENDIX.**

Summary of Recommendations

**Recommendation 1.**

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